ORDER NO. GAD8609597C7

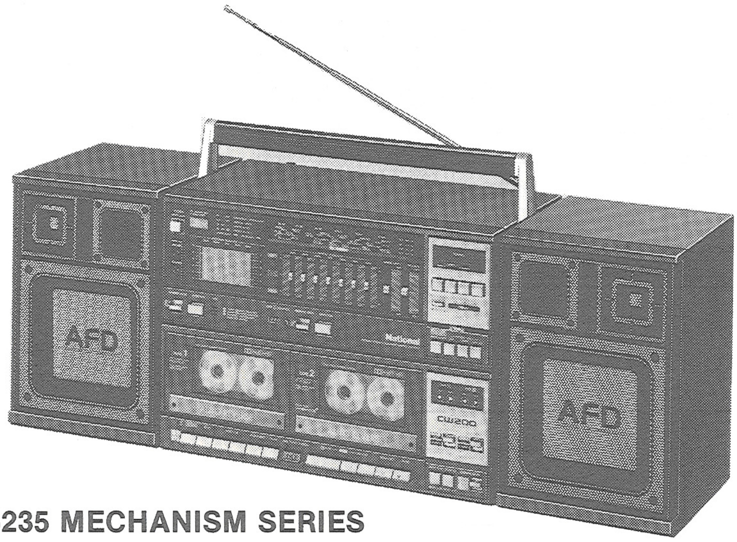
Service Manual

Radio Cassette

Portable Stereo Component System

RX-CW200F

(Black)



This is the Service Manual for the following areas.

X	···For Asia, Latin America, Middle East and Africa areas.
L	···For Australia.
XC	···For Saudi Arabia.
XF	···For Newzealand.
ME	···For AAFES EUROPE.
MF	···For AAFES PACIFIC.

RX-5235 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement:	AC; X XC ME MF ... 110～127/200～220/ 230～250V, 50/60Hz L XF ......240V, 50Hz Battery; 15V (Ten "D" Size Flashlight Batteries) (National UM-1 or equivalent) Car Battery; with optional car battery card RP-9550
Power Consumption:	X XC ME MF ...76W (AC only) L XF ....70W (AC only)
Power Output:	150W (75W×2)...PMPO 36W (18W×2).....RMS (max.)
Speaker:	Woofer; 12cm×12cm AFD Speaker (8Ω) Squawker; 5cm PM Dinamic Speaker (6Ω) Tweeter; 2cm Ceramic Speaker (1.4kΩ)
Input:	MIC/MIX MIC; sensitivity 1.6mV/ applicable microphone impedance 200～600Ω (φ3.5) CD/LINE IN; sensitivity 316mV/48kΩ over DC IN; 13.2V
Output:	EXT SP; 8Ω, φ3.5 HEADPHONES; 32Ω, φ3.5
Dimensions:	Total Size; 660(W)×300(H)×193(D)mm Main Unit; 339(W)×245(H)×186(D)mm Speaker Box; 165(W)×244(H)×175(D)mm
Weight:	8.4kg without batteries

Radio Section:

Radio Frequency Range:	FM; 88～108MHz MW; 530～1605kHz (566～187m) SW1; 2.3～7.0MHz (130～42.9m) SW2; 7.0～22.0MHz (42.9～13.6m)
Intermediate Frequency:	FM; 10.7MHz AM (MW/SW1/SW2); 455kHz
Sensitivity:	FM; 1.3µV/50mW output (−3dB Limit Sens) MW; 90µV/m/50mW output SW1; 85µV/m/50mW output SW2; 7.5µV/50mW output

Tape Deck Section:	**Tape 1**
Frequency Response:	55～15,000Hz (with normal tape) 55～16,000Hz (with CrO_2 & Metal tape)
Recording System:	AC bias, AC erase
Tape Speed:	4.8cm/s
Track System:	4-track 2-channel stereo recording and playback

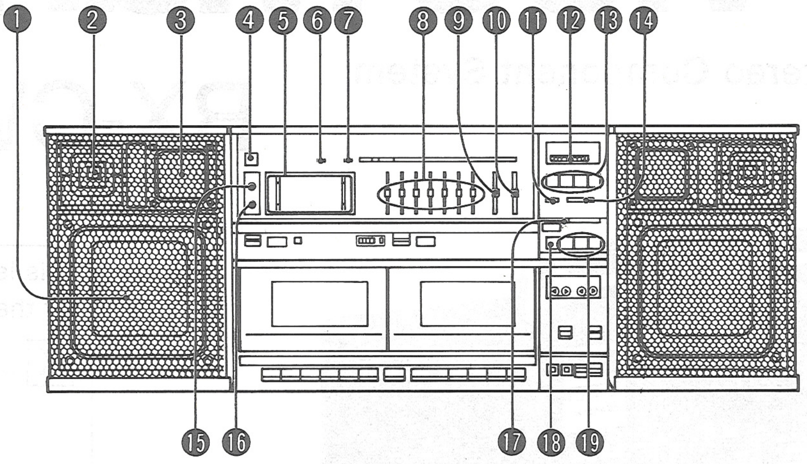
Tape Deck Section:	**Tape 2**
Frequency Response:	55～15,000Hz (with normal tape) 55～16,000Hz (with CrO_2 & Metal tape)
Tape Speed:	4.8cm/s
Track System:	4-track 2-channel stereo playback

Design and specifications are subject to change without notice.

National

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

LOCATION OF CONTROLS AND COMPONENTS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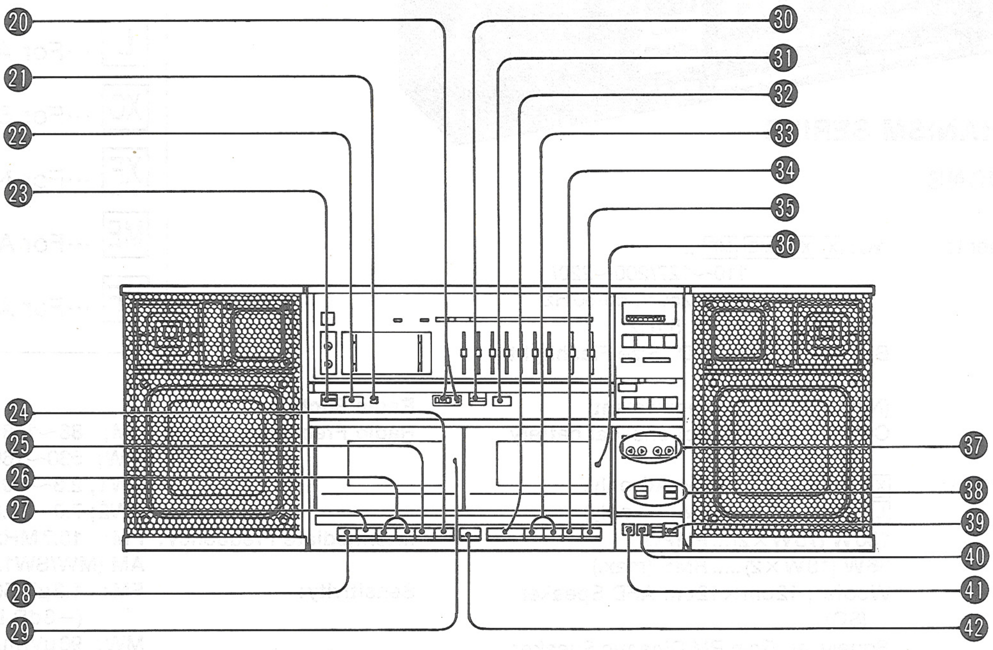
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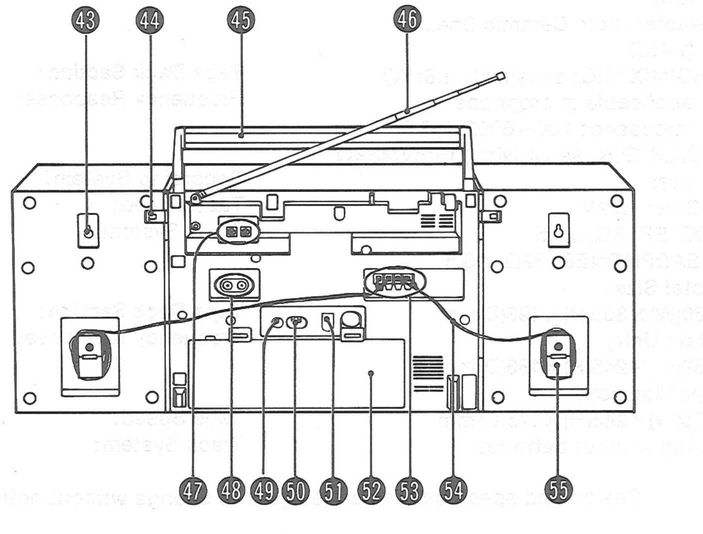
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(51)
(52)
(53)
(54)
(55)

① Speakers (Woofer) 12cm×12cm, 8Ω
② Speakers (Tweeter) 2cm×1.4kΩ
③ Speakers (Squawker) 5cm, 6Ω
④ Power Switch (POWER)
⑤ Spectrum Analyzer (SPECTRUM ANALYZER)
⑥ Power/Battery Check Indicator (POWER/BATT)
⑦ FM Stereo Indicator (FM STEREO)
⑧ Graphic Equalizer/Frequency Distribution Equalizer Controls (GRAPHIC EQUALIZER/F.D. EQ)
⑨ Mixing Level Control (MIXING LEVEL)
⑩ Balance Control (BALANCE)
⑪ FM Mode Selector/Beat Proof Switch (FM MODE/B.P)
⑫ Tuning Control (TUNING)
⑬ Band Selector (BAND)
⑭ Fine Tuning Control (FINE TUNING)
⑮ Mixing Microphone Jack (MIX.MIC) 1.6mV/200~600Ω φ3.5
⑯ Headphones Jack (PHONES) 32Ω, φ3.5

> When using the headphones (EAH-S10, optional), avoid listening to sound for a long period of time at excessive volume levels, which may injure your ears.

⑰ Volume Control (VOLUME)
⑱ Equalizer Mode Selector (EQUALIZER MODE)
⑲ Function Selector (FUNCTION)

TAPE 1 (For Recording and Playback)

⑳ Tape 1 Counter and Reset Button (TAPE 1 COUNTER)
㉑ Built-in Microphone (MIC)
㉒ Direction Button (DIRECTION)
㉓ Reverse Mode Selector (REVERSE MODE)
㉔ Pause Button (❚❚ PAUSE)
㉕ Stop/Eject Button (■/▲ STOP/EJECT)
㉖ Fast/Cue Buttons (◀◀·▶▶ FAST/CUE)
㉗ Playback Button (▶PLAY)
㉘ Record Button (● RECORD)
㉙ Cassette Compartment

TAPE 2 (For Playback)

㉚ Reverse Mode Selector (REVERSE MODE)
㉛ Direction Button (DIRECTION)
㉜ Playback Button (▶PLAY)
㉝ Fast/TPS Buttons (◀◀·▶▶ FAST TPS)
㉞ Stop/Eject Button (■/▲STOP/EJECT)
㉟ Pause Button (❚❚ PAUSE)
㊱ Cassette Compartment

㊲ Direction Indicators (DIRECTION)
㊳ Tape Selectors (TAPE SELECTOR)
㊴ Dubbing Mode Selector (DUBBING MODE)
㊵ Dolby※NR Switch (DOLBY NR)
㊶ Relay Playback Switch (RELAY PLAY)
㊷ One Touch Dubbing Button (ONE TOUCH DUBBING)

㊸ Speaker Wall Mounts
㊹ Speaker Release Levers (RELEASE)
㊺ Detachable Carrying Handle
㊻ Telescopic Antenna
㊼ External Antenna Terminals (FM ANT/SW ANT)
㊽ CD/Line Input Jacks (CD/LINE IN) 316mV/48kΩ
㊾ DC Input Jack [DC IN 13.2V (12–15V)⊖-⊙-⊕]
㊿ AC Socket (AC IN~)
(51) Voltage Selector (VOLTAGE SELECTOR)
Not provided for the model for 240 V, 50 Hz areas.
(52) Battery Compartment
(53) Speaker Terminals (SPEAKER IMP 8Ω ONLY) φ3.5
(54) Speaker Cables
(55) Speaker Cable Compartments

> ※"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
> Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

CAUTIONS ON DISASSEMBLY AND ASSEMBLY

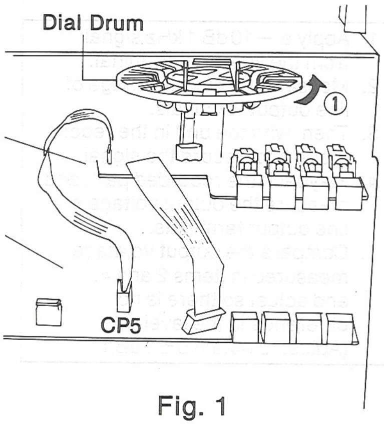


Fig. 1

Rack (Dial Pointer) when stopped by boss.

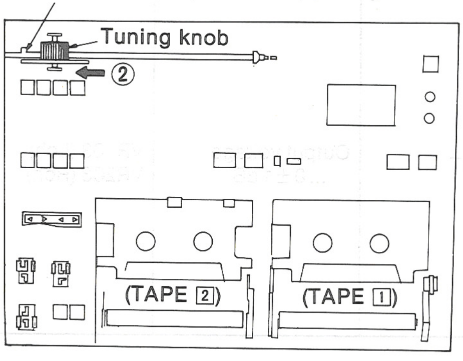


Fig. 2

- Turn the dial drum all the way in the direction of the arrow ①. (Fig. 1)
- Turn the tuning knob in the direction of the arrow ② until the rack (dial pointer) is stopped by the boss. (Fig. 2)

DISASSEMBLY INSTRUCTIONS

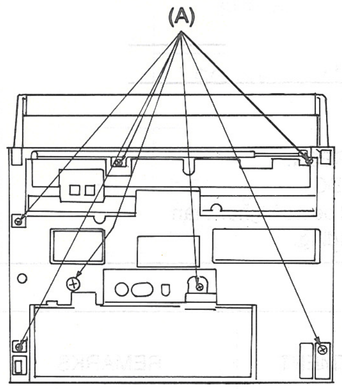


Fig. 1

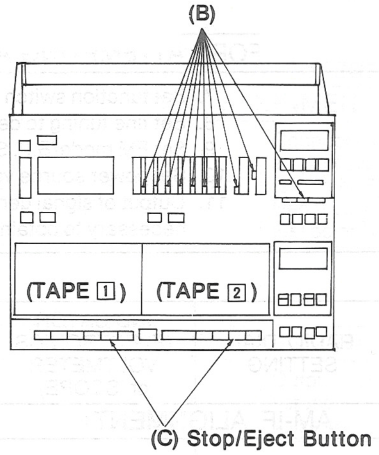

(B)
(TAPE 1)
(TAPE 2)
(C) Stop/Eject Button

Fig. 2

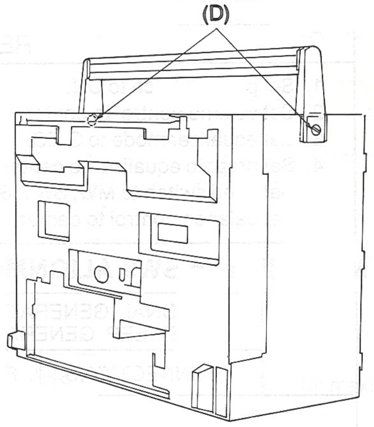


Fig. 3

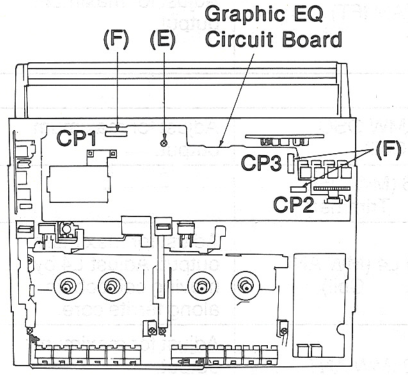

Graphic EQ Circuit Board
(F)
(E)
CP1
CP3
(F)
CP2

Fig. 4

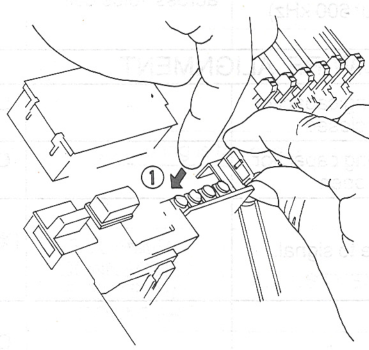


Fig. 5

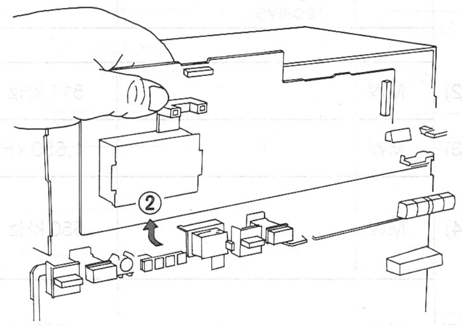


Fig. 6

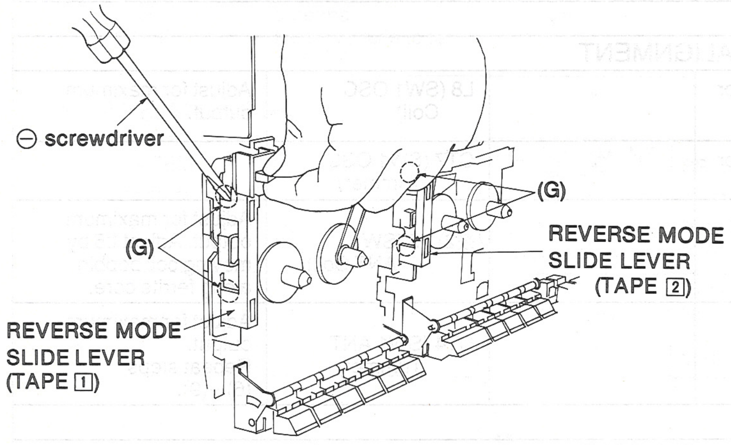

⊖ screwdriver
(G)
(G)
REVERSE MODE SLIDE LEVER (TAPE 2)
REVERSE MODE SLIDE LEVER (TAPE 1)

Fig. 7

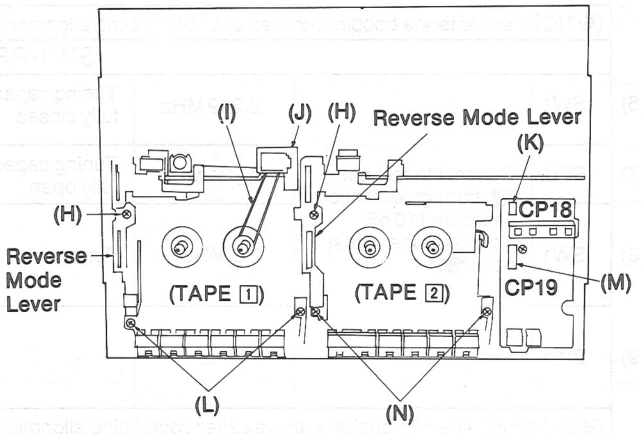

(I)
(J)
(H)
Reverse Mode Lever
(K)
(H)
Reverse Mode Lever
CP18
(TAPE 1)
(TAPE 2)
CP19
(M)
(L)
(N)

Fig. 8

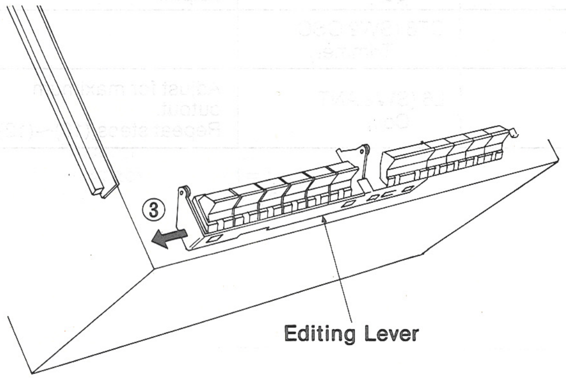

③
Editing Lever

Fig. 9

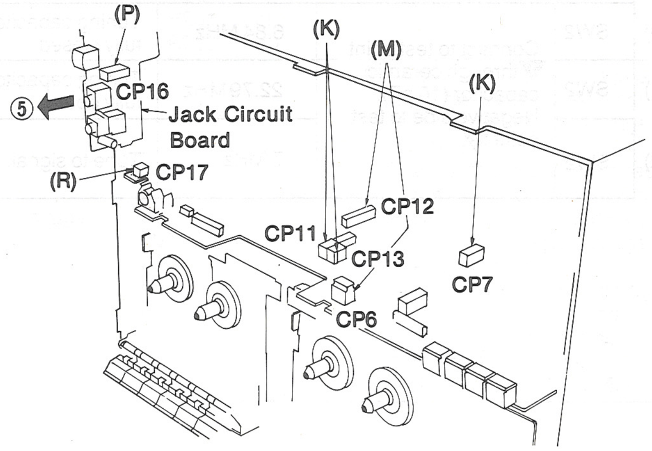

(P)
⑤
CP16
Jack Circuit Board
(R)
CP17
(K)
(M)
(K)
CP12
CP11
CP13
CP6
CP7

Fig. 10

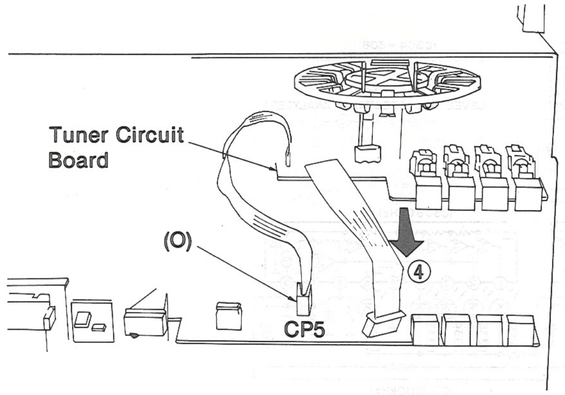

Tuner Circuit Board
(O)
④
CP5

Fig. 11

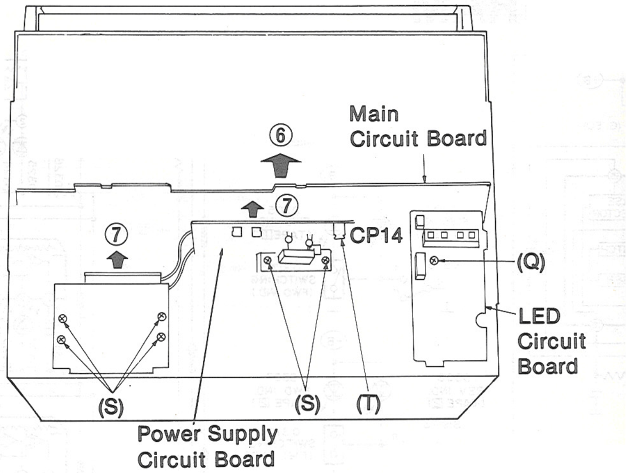

Main Circuit Board
⑥
⑦
⑦
CP14
(Q)
LED Circuit Board
(S)
(S)
(T)
Power Supply Circuit Board

Fig. 12

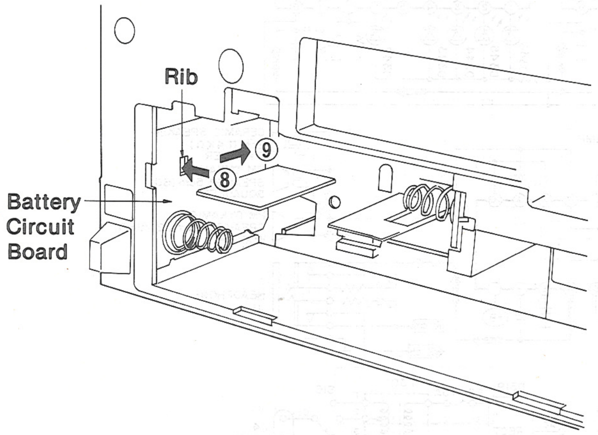

Rib
⑨
⑧
Battery Circuit Board

Fig. 13

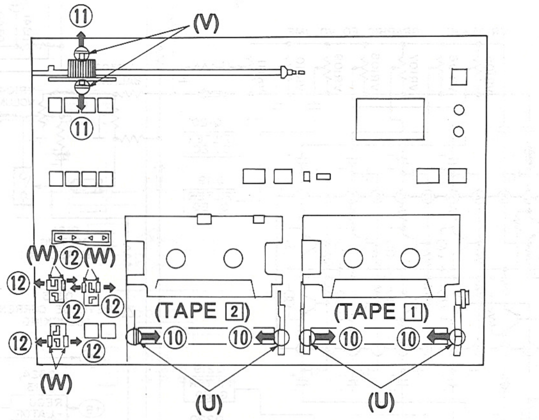

⑪
(V)
⑪
(W) ⑫ (W)
⑫
⑫
⑫
⑫
(TAPE 2)
(TAPE 1)
⑩
⑩
⑩
⑩
(W)
(U)
(U)

Fig. 14

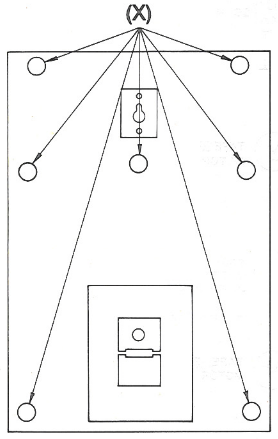


Fig. 15

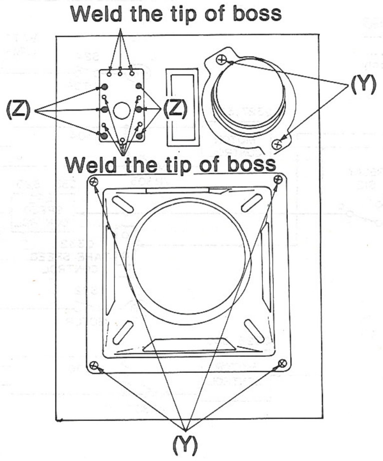

Weld the tip of boss
(Z)
(Z)
(Y)
Weld the tip of boss
(Y)

Fig. 16

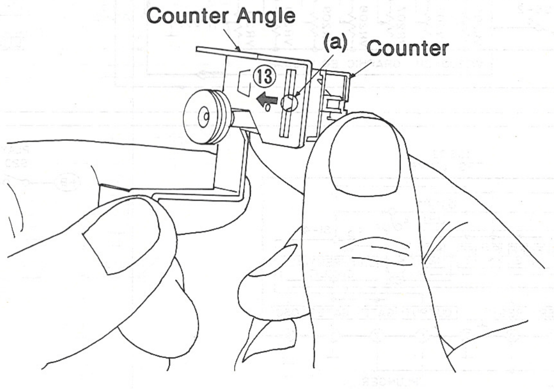

Counter Angle
(a)
Counter
⑬

Fig. 17

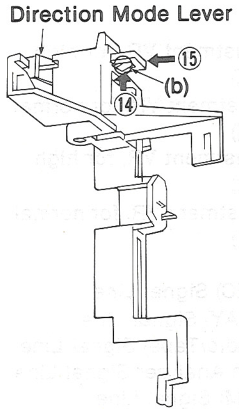

Direction Mode Lever
⑮
(b)
⑭

Fig. 18

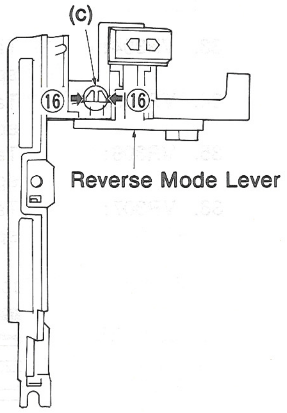

(c)
⑯
⑯
Reverse Mode Lever

Fig. 19

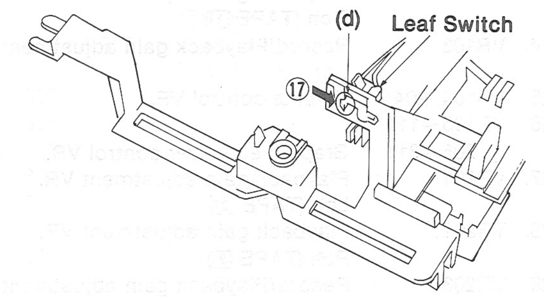

(d)
Leaf Switch
⑰

Fig. 20

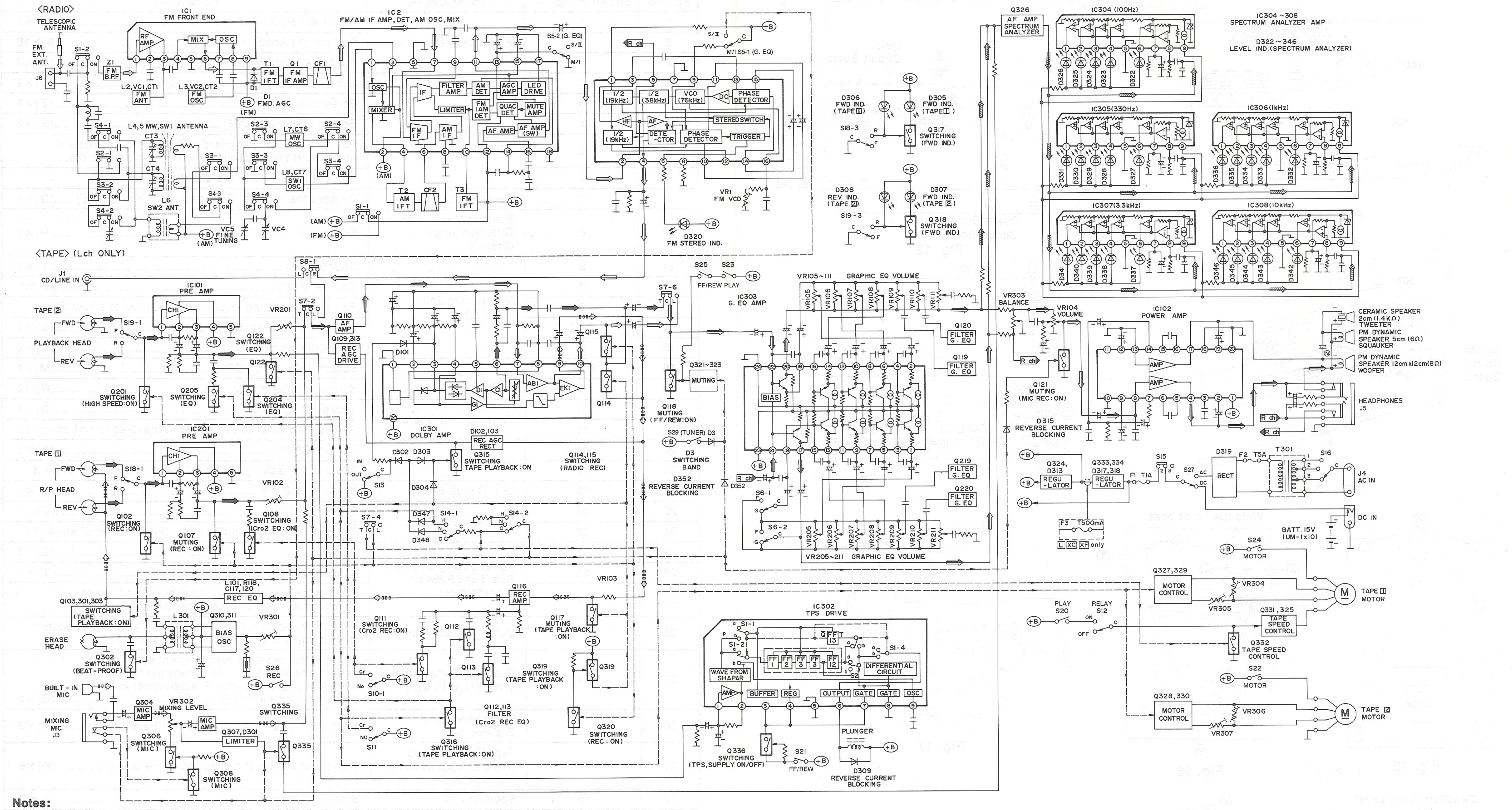
▼ Be sure to fold at the (▼) mark so that mark is on the outside.

Ref. No.	Shown in Fig. —.	To remove —.	Remove —.
1	1	Front Cabinet Ass'y	Screw (3×50)mm ....(A)×7
2	2		Pull out the knob. (*1) ....(B)×10
3	2		Push the Stop/Eject button (Tape $\boxed{1}$ & $\boxed{2}$)..........(C)×2
4	3	Handle	Screw (4×9)mm ....(D)×2
5	4	Graphic EQ Circuit Board	Screw (3×12)mm ....(E)×1
6	4		Socket (CP1, CP2, CP3)..........(F)×3
7	5		Push the G.EQ circuit board in the direction of arrow ① and remove the G.EQ circuit board of counter holder.
8	6		Pull out the board in the direction of arrow ②.
9	7	Reverse Mode Lever	Remove the rib with ⊖ screwdriver (Tape $\boxed{1}$ & $\boxed{2}$) ......(G)×4
10	8	Reverse Mode Slidel/ Direction Mode Chassis	Screw (3×12)mm (Tape $\boxed{1}$ & $\boxed{2}$) ....(H)×2
11	8	Mechanism Unit (Tape $\boxed{1}$)	Counter Belt ....(I)×1
12	8		Counter Ass'y..........(J)×1
13	9		Remove the editing lever in the direction of arrow ③.
14	8, 10		Socket (CP7, CP11, CP13, CP18)..........(K)×4
15	8		Screw (3×12)mm ....(L)×2
16	8, 10	Mechanism Unit (Tape $\boxed{2}$)	Socket (CP6, CP12, CP19)..........(M)×3
17	8		Screw (3×12)mm ....(N)×2
18	11	Tuner Circuit Board	Socket (CP5) ....(O)×1
19	11		Pull out the tuner circuit board in the direction of arrow ④.
20	10	Jack Circuit Board	Socket (CP16) ....(P)×1
21	10		Pull out the jack circuit board in the direction of arrow ⑤.
22	12	LED Circuit Board	Screw (3×12)mm ....(Q)×1
23	10	Main Circuit Board	Socket (CP17) ....(R)×1
24	12		Pull out the jack circuit board in the direction of arrow ⑥.
25	12	Power Supply Circuit Board and Power Transformer	Screw (3×12)mm ....(S)×6
26	12		Socket (CP14) ....(T)×1
27	12		Pull out the power supply circuit board and power transformer in the direction of arrow ⑦.
28	13	Battery Circuit Board	Push rib in the direction of the arrow ⑧ and remove battery circuit board in the direction of the arrow ⑨.
29	14	Cassette Compartment Cover (Tape $\boxed{1}$ & $\boxed{2}$)	Remove the cassette compartment cover by pulling one side at a time toward the front of the set while pushing it with ⊖ screwdriver in the direction of the arrow ⑩..........(U)×4
30	14	Tuning knob and Dial Pointer	Remove the rib in the direction of the arrow ⑪..........(V)×2
31	14	Tape Selector knob (Tape $\boxed{1}$ & $\boxed{2}$), Dubbing Mode Knob	Remove the rib in the direction of the arrow ⑫..........(W)×6
32	15	Speaker Grill	Screw (3×50)mm ....(X)×7
33	16	Woofer Speake and Squawker Speake	Screw (3×10)mm ....(Y)×6
34	16	Tweeter Ass'y (*2)	Cut the tip of boss ....(Z)×6
35	17	Counter	Remove the rib in the direction of the arrow ⑬..........(a)×1
36	18	Direction Mode Lever	Push the rib in the direction of arrow ⑭ and pull out the reverse mode lever in the direction of the arrow ⑮..........(b)×1
37	19	Reverse Mode Lever	Remove the rib in the direction of the arrow ⑯..........(c)×1
38	20	Leaf Switch	Remove the rib in the direction of the arrow ⑰..........(d)×1

(*1) When taking off a knob, wrap it with a cloth to prevent scratches.

(*2) When replacing the tweeter, attach the tweeter to the speaker cabinet by welding it to the remainder of the boss.

BLOCK DIAGRAM


〈RADIO〉
TELESCOPIC ANTENNA
FM EXT. ANT.
IC1 FM FRONT END
RF AMP
MIX
OSC
IC2 FM/AM IF AMP, DET, AM OSC, MIX
FILTER AMP
AM DET
AGC AMP
LED DRIVE
LIMITER
FM AM DET
QUAC DET
MUTE AMP
AF AMP
AF AMP (SW)
MIXER
T1 FM IFT
Q1 FM IF AMP
CF1
T2 AM IFT
CF2
T3 FM IFT
D1 FMD. AGC
L4,5 MW,SW1 ANTENNA
L6 SW2 ANT
VC5 FINE TUNING
VC4
L7,CT6 MW OSC
L8,CT7 SW1 OSC
S5-2 (G. EQ)
M/I S5-1 (G. EQ)
1/2 (19kHz)
1/2 (38kHz)
VCO (76kHz)
PHASE DETECTOR
STEREO SWITCH
DETE-CTOR
TRIGGER
VR1 FM VCO
D320 FM STEREO IND.
〈TAPE〉 (Lch ONLY)
J1 CD/LINE IN
IC101 PRE AMP
TAPE ②
PLAYBACK HEAD
IC201 PRE AMP
TAPE ①
R/P HEAD
Q110 AF AMP
Q109,313 REC AGC DRIVE
Q122 SWITCHING (EQ)
Q201 SWITCHING (HIGH SPEED:ON)
Q205 SWITCHING (EQ)
Q204 SWITCHING (EQ)
Q102 SWITCHING (REC:ON)
Q107 MUTING (REC:ON)
Q108 SWITCHING (Cro2 EQ:ON)
IC301 DOLBY AMP
D102,103 REC AGC RECT
Q315 SWITCHING TAPE PLAYBACK:ON
Q114,115 SWITCHING (RADIO REC)
Q118 MUTING (FF/REW:ON)
Q321~323 MUTING
D3 SWITCHING BAND
D352 REVERSE CURRENT BLOCKING
IC303 G. EQ AMP
VR105~111 GRAPHIC EQ VOLUME
VR205~211 GRAPHIC EQ VOLUME
BIAS
Q120 FILTER G. EQ
Q119 FILTER G. EQ
Q219 FILTER G. EQ
Q220 FILTER G. EQ
VR303 BALANCE
VR104 VOLUME
Q121 MUTING (MIC REC:ON)
D315 REVERSE CURRENT BLOCKING
IC102 POWER AMP
CERAMIC SPEAKER 2cm (1.4KΩ) TWEETER
PM DYNAMIC SPEAKER 5cm (6Ω) SQUAKER
PM DYNAMIC SPEAKER 12cm×12cm(8Ω) WOOFER
HEADPHONES J5
Q326 AF AMP SPECTRUM ANALYZER
IC304 (100Hz)
IC305(330Hz)
IC306(1kHz)
IC307(3.3kHz)
IC308(10kHz)
IC304~308 SPECTRUM ANALYZER AMP
D322~346 LEVEL IND.(SPECTRUM ANALYZER)
D306 FWD IND. (TAPE ①)
D305 FWD IND. (TAPE ①)
Q317 SWITCHING (FWD IND.)
D308 REV IND. (TAPE ②)
D307 FWD IND. (TAPE ②)
Q318 SWITCHING (FWD IND.)
Q324, D313 REGU-LATOR
Q333,334 D317,318 REGU-LATOR
D319 RECT
T301
J4 AC IN
DC IN
BATT. 15V (UM-1×10)
F3 T500mA
L XC XP only
L101,R118, C117,120 REC EQ
Q116 REC AMP
Q103,301,303 SWITCHING (TAPE PLAYBACK:ON)
L301
Q310,311 BIAS OSC
ERASE HEAD
Q302 SWITCHING (BEAT-PROOF)
S26 REC
Q111 SWITCHING (Cro2 REC:ON)
Q112,113 FILTER (Cro2 REC EQ)
Q117 MUTING (TAPE PLAYBACK :ON)
Q319 SWITCHING (TAPE PLAYBACK :ON)
Q316 SWITCHING (TAPE PLAYBACK:ON)
Q320 SWITCHING (REC:ON)
BUILT-IN MIC
MIXING MIC J3
Q304 MIC AMP
VR302 MIXING LEVEL
MIC AMP
Q307,D301 LIMITER
Q306 SWITCHING (MIC)
Q308 SWITCHING (MIC)
Q335 SWITCHING
IC302 TPS DRIVE
WAVE FROM SHAPAR
BUFFER
REG
OUTPUT
GATE
OSC
DIFFERENTIAL CIRCUIT
Q336 SWITCHING (TPS,SUPPLY ON/OFF)
PLUNGER
D309 REVERSE CURRENT BLOCKING
S21 FF/REW
Q327,329 MOTOR CONTROL
VR304
VR305
TAPE ① MOTOR
Q331,325 TAPE SPEED CONTROL
Q332 TAPE SPEED CONTROL
S24 MOTOR
S22 MOTOR
Q328,330 MOTOR CONTROL
VR306
VR307
TAPE ② MOTOR
PLAY S20
RELAY S12
S25 S23 FF/REW PLAY
S13
S14-1
S14-2
S10-1
S11

Notes:

1. S1~S4, S29: Band switch in "OFF" position. (Tuner circuit board)
2. S5-1, S5-2: FM Mode/B.P. switch in "MONO/II" position. (G. EQ circuit board)
3. S6~S9, S17: Equalizer mode/Function switch in "G. EQ/TAPE" position. ※S9 No Circuit
4. S10-1, S10-2: Tape select switch in "NORMAL" position. (TAPE ①)
5. S11: Tape select switch in "NORMAL" position. (TAPE ②)
6. S12: Relay play switch in "OFF" position.
7. S13: Dolby NR switch in "OUT" position.
8. S14-1, S14-2: Dubbing mode switch in "OFF/BUILT IN MIC" position.
9. S15: Power switch in "OFF" position.
10. S16: Voltage select switch.
11. S18-1~S18-3: Direction switch in "FWD" position. (TAPE ①)
12. S19-1~S19-4: Direction switch in "FWD" position. (TAPE ②)
13. S20: Playback switch. (TAPE ②)
14. S21: FF/REW switch. (TAPE ②)
15. S22: Motor switch. (TAPE ②)
16. S23: Playback switch. (TAPE ①)
17. S24: Motor switch. (TAPE ①)
18. S25: FF/REW switch. (TAPE ①)
19. S26: Record switch. (TAPE ①)
20. S27: AC/DC IN select switch in "DC" position.
21. VR1: FM VCO Adjustment VR.
22. VR101: Playback gain adjustment VR. Lch (TAPE ①)
23. VR102: Playback gain adjustment VR. Rch (TAPE ①)
24. VR103: Record/Playback gain adjustment VR. Lch
25. VR104, 204: Volume control VR.
26. VR105~111, 205~211: Graphic equalizer control VR.
27. VR201: Playback gain adjustment VR. Lch (TAPE ②)
28. VR202: Playback gain adjustment VR. Rch (TAPE ②)
29. VR203: Record/Playback gain adjustment VR. Rch
30. VR301: Bias current adjustment VR.
31. VR302: Mix level adjustment VR.
32. VR303: Balance control VR.
33. VR304: Tape speed adjustment VR, for high speed. (TAPE ①)
34. VR305: Tape speed adjustment VR, for normal speed. (TAPE ①)
35. VR306: Tape speed adjustment VR, for high speed. (TAPE ②)
36. VR307: Tape speed adjustment VR, for normal speed. (TAPE ②)

▯▯▯▷ Tape (REC) Signal Line
➡ Tape (PLAY) Signal Line
⇨ Main (Radio/Tape) Signal Line
▨ Spectrum Analyzer Signal Line
⇨ Radio (FM) Signal Line

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT.

1. Set power switch to ON.
2. Set volume control to center.
3. Set equalizer mode to G.EQ.
4. Set graphic equalizer to center.
5. Set band switch to MW, SW1, SW2, or FM.
6. Set balance control to center.
7. Set function switch to TUNER.
8. Set fine tuning to center.
9. Set FM mode/B.P. Switch to STEREO/I.
10. Set power source voltage to 15V DC.
11. Output of signal generator should be no higher than necessary to obtain an output reading.

■ MW, SW1 and SW2 ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
	AM-IF ALIGNMENT						
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/about 600 kHz)	Output meter across voice coil	T2 (AM IFT)	Adjust for maximum output.
	MW-RF ALIGNMENT						
(2)	MW	〃	511 kHz	Tuning capacitor fully closed	〃	L7 (MW OSC Coil)	Adjust for maximum output.
(3)	MW	〃	1,650 kHz	Tuning capacitor fully open	〃	CT6 (MW OSC Trimmer)	〃
(4)	MW	〃	550 kHz	Tune to signal.	〃	(※1) L4 (MW ANT Coil)	Adjust for maximum output. Adjust L4 by moving coil bobbin along ferrite core.
(5)	MW	〃	1,500 kHz	〃	〃	CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
	(※1)Cement antenna bobbin with wax after completing alignment.						
	SW1-RF ALIGNMENT						
(6)	SW1	Connect to test point ▽1 through ceramic capacitor (10 pF). Negative side to test point ▽2.	2.249 MHz	Tuning capacitor fully closed	〃	L8 (SW1 OSC Coil)	Adjust for maximum output.
(7)	SW1		7.231 MHz	Tuning capacitor fully open	〃	CT7 (SW1 OSC Trimmer)	〃
(8)	SW1		2.3 MHz	Tune to signal.	〃	(※2) L5 (SW1 ANT Coil)	Adjust for maximum output. Adjust L5 by moving coil bobbin along ferrite core.
(9)	SW1		7 MHz	〃	〃	CT4 (SW1 ANT Trimmer)	Adjust for maximum output. Repeat steps (6)~(9).
	(※2) Cement antenna bobbin with wax after completing alignment.						
	SW2-RF ALIGNMENT						
(10)	SW2	Connect to test point ▽1 through ceramic capacitor (10 pF). Negative side to test point ▽2.	6.84 MHz	Tuning capacitor fully closed	〃	L9 (SW2 OSC Coil)	Adjust for maximum output.
(11)	SW2		22.79 MHz	Tuning capacitor fully open	〃	CT8 (SW2 OSC Trimmer)	〃
(12)	SW2		7 MHz	Tune to signal.	〃	L6 (SW2 ANT Coil)	Adjust for maximum output. Repeat steps (10)~(12).

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
	FM-IF ALIGNMENT						
(1)	FM	High side thru. 0.001 μF to test point ▽3. Negative side to test point ▽2.	10.7 MHz (SWP.)	Point of non-interference. (on/about 90 MHz)	Connect vert. amp. of scope to test point ▽4. Negative side to test point ▽5.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 3).
(2)	FM		〃	〃	〃	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 4).
	FM-RF ALIGNMENT						
(3)	FM	Connect to test point ▽1 through FM dummy antenna. Negative side to test point ▽2.	86.2 MHz	Variable capacitor fully closed	Output meter across voice coil	L3 (FM OSC Coil)	(※3) Adjust for maximum output.
(4)	FM		109.2 MHz	Variable capacitor fully open	〃	CT2 (FM OSC Trimmer)	〃
(5)	FM		106 MHz	〃	〃	CT1 (FM ANT Trimmer)	(※3) Adjust for maximum output. Repeat steps (3)~(5).
	(※3) Three output responses will be present: proper tuning is the center frequency.						

■ SEPARATION ALIGNMENT

	ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
(1)	Adjustment of pilot signal	98 MHz, 60 dB (CW) Connect to test point ▽1 through FM dummy antenna. Negative side to test point ▽2.	▽6 ... (+) ▽7 ... (−)	VR1	19 kHz	Adjust VR1, for 19 kHz (±50 Hz) reading on electronics counter.

■ TAPE ADJUSTMENT

	ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
(1)	Azimuth	QZZCFM (8 kHz, −20 dB)	SP OUT (AC voltmeter & Oscilloscope)	Maximum output.	Azimuth screw (FWD, REV)	Playback mode Mode switch → STEREO/I (Refer to Fig. 5)
(2)	Rec Bias Current	———	▽9 ...(+) ▽10 ...(−)	Tape selector Normal ... 18±0.5 mV Metal ..... 25±15 V	VR301	FM Mode B.P → Mono/II Tape selector → Normal Function selector → Radio (AM)
(3)	Playback Gain (Tape 1 & 2)	QZZCLA (315 Hz, 0 dB)	TP3 ▽L ...(+) Lch ▽E ...(−) ▽R ...(+) Rch	35±5 mV	(Tape 1) VR101 ... Lch VR102 ... Rch (Tape 2) VR201 ... Lch VR202 ... Rch	Playback mode (FWD and REV playback)
(4)	Record/ Playback Gain	Line IN f=1 kHz, −10 dB	Line OUT	Output voltage ...0±1 dB	VR103 (Lch) VR203 (Rch)	1. Apply a −10 dB 1 kHz signal from the line input terminal. 2. Measure the output voltage of line output terminals. 3. Then, with the unit in the record mode and, record the signal. 4. Playback the recorded part, and measure the output voltage of line output terminals. 5. Compare the output volatage measured in items 2 and 4, and adjust so there is no difference in the level. (Adjust to obtain 0±1 dB.)

■ TAPE SPEED ADJUSTMENTTAPE ADJUSTMENT

	ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	REMARKS
(1)	Tape speed adjustment for high speed. Tape 1 & 2	QZZCWAT (3kHz) Use QZZCWC (1.5kHz) tape when using a wow/flutter meter.	SP OUT	VR306 (Tape 2) VR304 (Tape 1)	1. Short TP 1 as shown in the Fig. 2 above to enter the hight speed mode. Tape 2 ... 6040±40 Hz (3020±20 Hz) Tape 1 ... −30±30 Hz of tape speed of tape 2 (Refer to Fig. 6 & 7 when using a wow/flutter meter)
(2)	Tape speed adjustment for normal speed. Tape 1 & 2	QZZCWAT (3kHz)	SP OUT	VR307 (Tape 2) VR305 (Tape 1)	1. Open TP 1 and set the tape speed to normal. 2. Tape 2 ... 3030±20 Hz Tape 1 ... −15±15 Hz of the speed of tape 2 (Refer to Fig. 8 & 9 when using a wow/flutter meter)

Note:
1. Adjust the tape speed by first adjusting the hight speed. Do not adjust the hight speed after adjusting the normal speed. (The normal speed changes if the hight speed is adjusted afterwards)
2. Adjust the tape advance speed in the following order: tape 2 hight, normal speed; tape 1 hight, normal speed.

■ ALIGMENT POINT

* Please refer to Circuit Board and Wiring Connection Diagram of test points location.

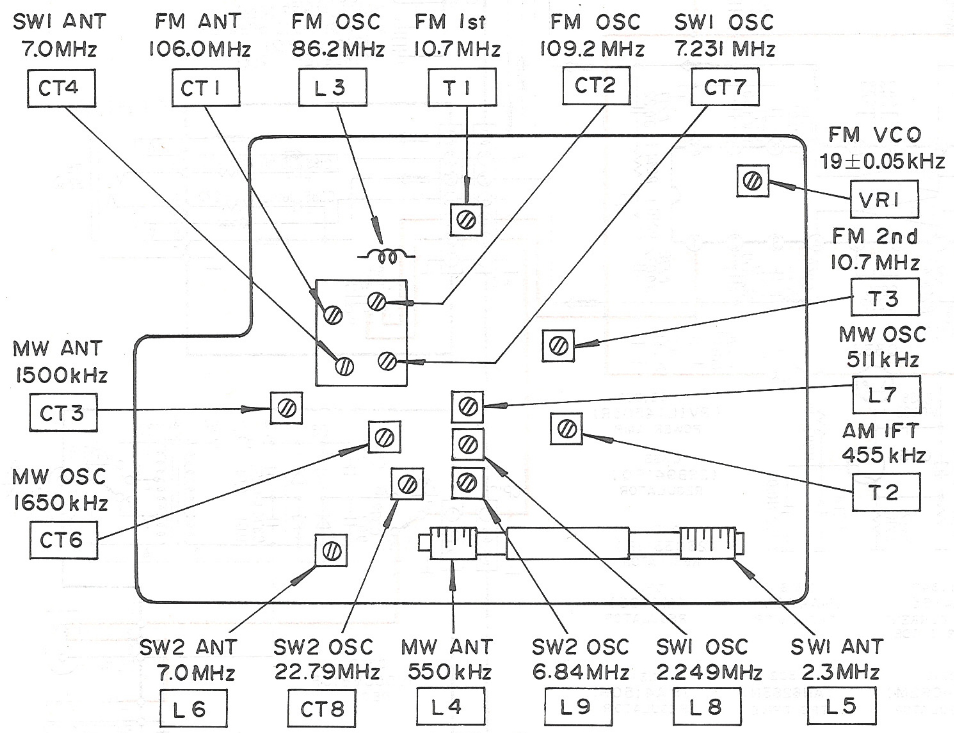

SWI ANT 7.0MHz CT4
FM ANT 106.0MHz CT I
FM OSC 86.2MHz L 3
FM Ist 10.7MHz T I
FM OSC 109.2MHz CT2
SWI OSC 7.231 MHz CT7
FM VCO 19±0.05kHz VRI
FM 2nd 10.7MHz T3
MW OSC 511kHz L7
AM IFT 455kHz T2
MW ANT 1500kHz CT3
MW OSC 1650kHz CT6
SW2 ANT 7.0MHz L 6
SW2 OSC 22.79MHz CT8
MW ANT 550kHz L4
SW2 OSC 6.84MHz L9
SWI OSC 2.249MHz L8
SWI ANT 2.3MHz L5

Fig. 1

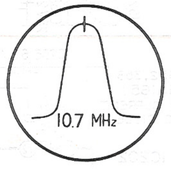


Fig. 3

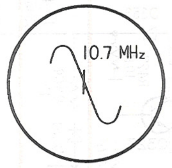
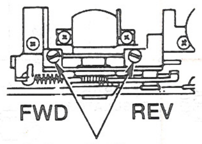


Fig. 4



Azimuth Screw

Fig. 5

• NEEDLE POSITION OF THE WOW/FLUTTER METER (High speed)

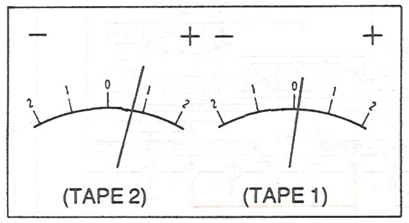

−
+ −
+
(TAPE 2)
(TAPE 1)

Fig. 6 Fig. 7

• NEEDLE POSITION OF THE WOW/FLUTTER METER (Normal speed)

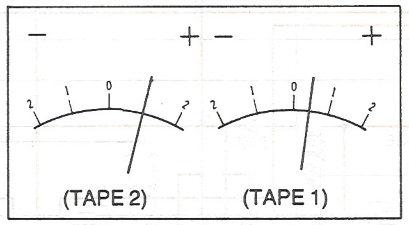

−
+ −
+
(TAPE 2)
(TAPE 1)

Fig. 8 Fig. 9

Note: Short TP 1 to adjust the hight speed mode.

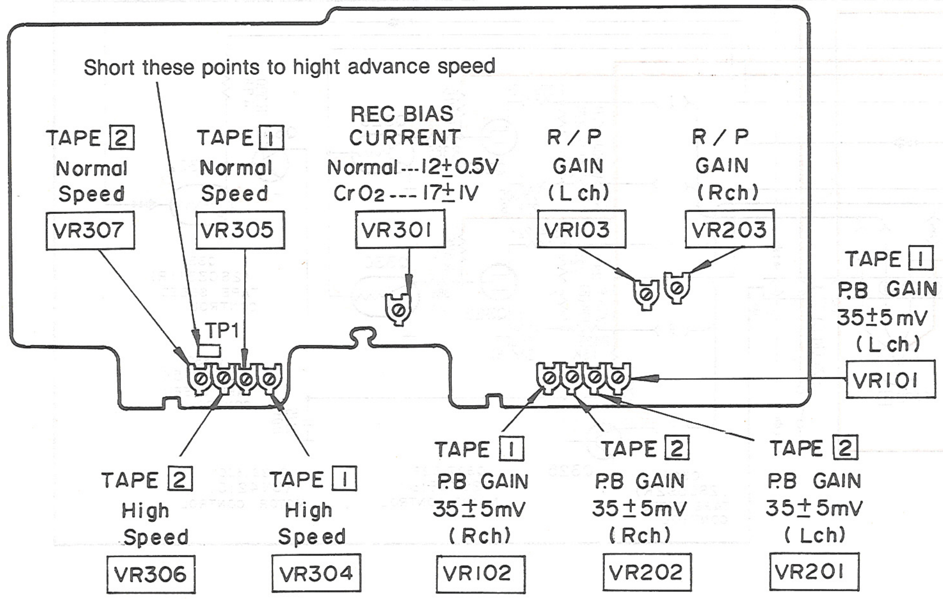
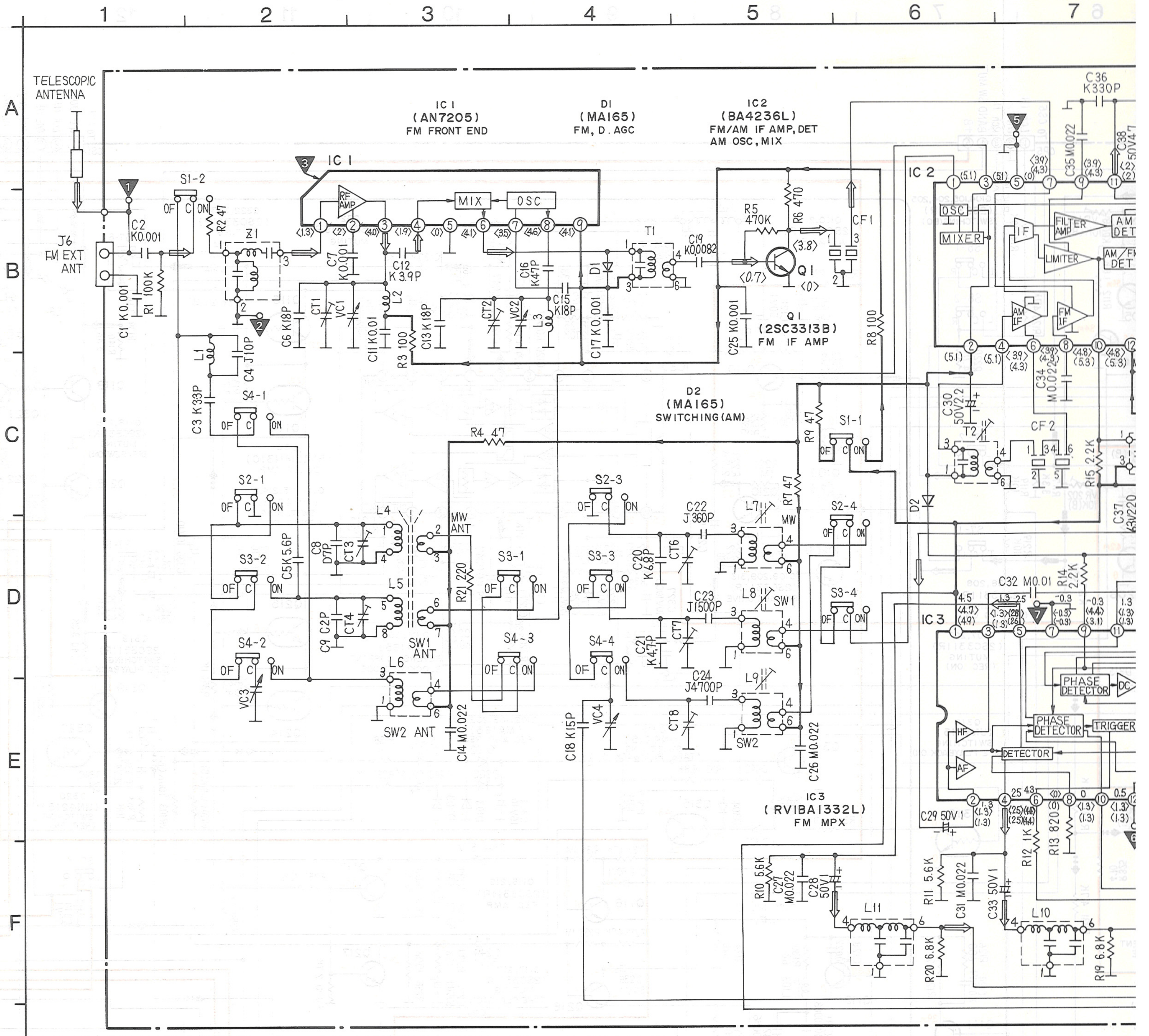

Short these points to hight advance speed
TAPE 2 Normal Speed VR307
TAPE 1 Normal Speed VR305
REC BIAS CURRENT Normal---12±0.5V CrO2---17±1V VR301
R/P GAIN (L ch) VR103
R/P GAIN (Rch) VR203
TAPE 1 P.B GAIN 35±5mV (L ch) VR101
TP1
TAPE 2 High Speed VR306
TAPE 1 High Speed VR304
TAPE 1 P.B GAIN 35±5mV (Rch) VR102
TAPE 2 P.B GAIN 35±5mV (Rch) VR202
TAPE 2 P.B GAIN 35±5mV (Lch) VR201

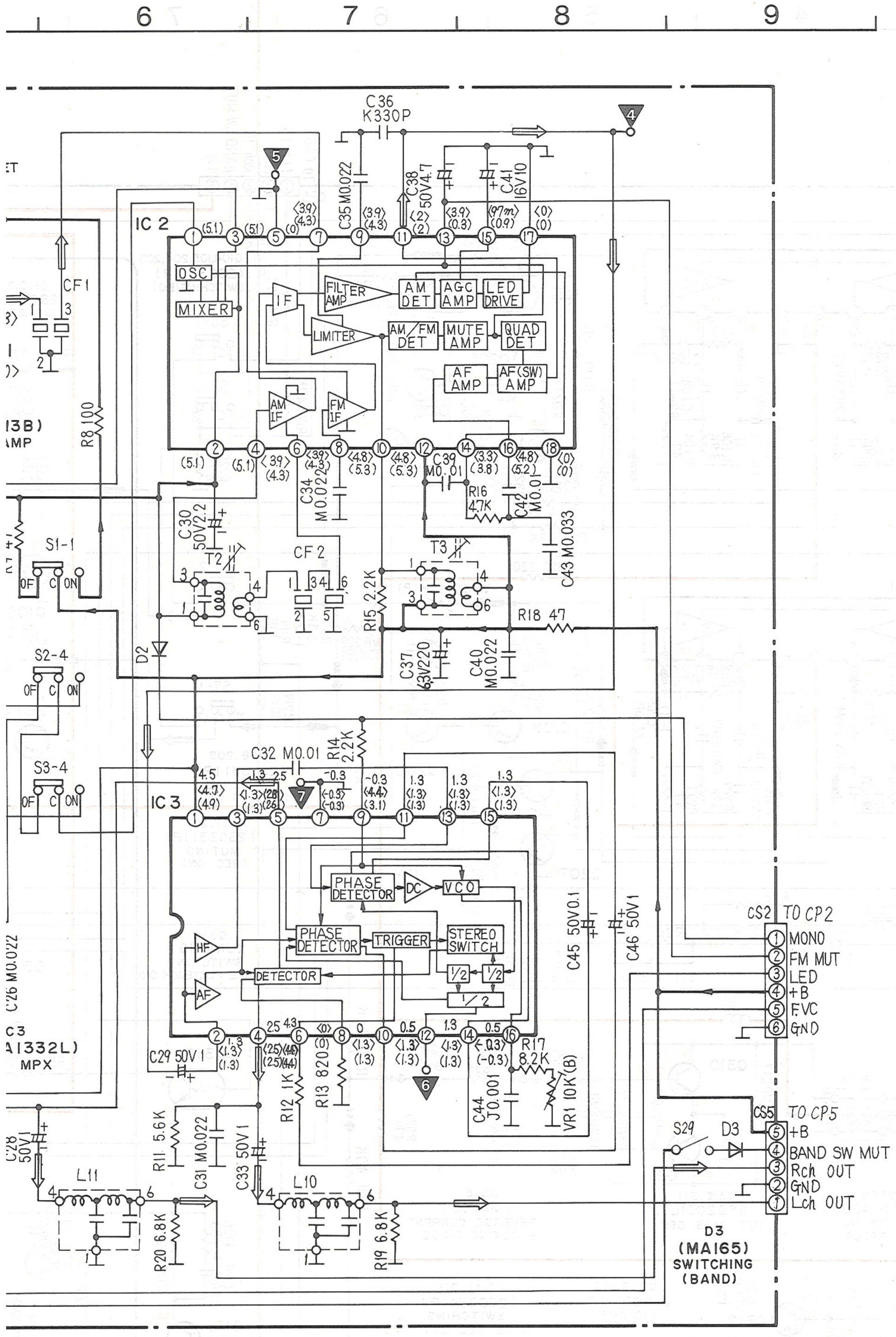
Fig. 2

SCHEMATIC DIAGRAM (TUNNER)


1 2 3 4 5 6 7
A B C D E F G H
TELESCOPIC ANTENNA
J6 FM EXT ANT
IC I (AN7205) FM FRONT END
DI (MA165) FM, D. AGC
IC2 (BA4236L) FM/AM IF AMP, DET AM OSC, MIX
RF AMP
MIX
OSC
Q I (2SC3313B) FM IF AMP
CF1
IC 2
D2 (MA165) SWITCHING (AM)
T1
T2
CF 2
IC3 (RVIBA1332L) FM MPX
PHASE DETECTOR
TRIGGER
DETECTOR
S1-1 S1-2 S2-1 S2-3 S2-4 S3-1 S3-2 S3-3 S3-4 S4-1 S4-2 S4-3 S4-4
MW ANT
SW1 ANT
SW2 ANT
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11
C36 K330P
R5 470K
R6 470
R4 47
R9 47
R7 47

Notes:
1. S1~S4,
   S29: Band switch in "OFF" position. (S1 ... FM, S2 ... MW, S3 ... SW1, S4 ... SW2, S29 ... Band muting)
2. VR1: FM VCO Adjustment VR.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   〈 〉... FM, ( ) ... AM
4. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes.
   One type number is used for supply parts number and production parts number which they are identical.
   e.g. Q1
   2SC2412NRTB, LNSTB ← Production parts number
   (2SC2412) ← Supply parts number
5. THe sup
   replacen
6. The mar
- **This sch**
  with the

RAM (TUNNER)


6
7
8
9
IC 2
OSC
MIXER
IF
FILTER AMP
LIMITER
AM DET
AGC AMP
LED DRIVE
AM/FM DET
MUTE AMP
QUAD DET
AF AMP
AF(SW) AMP
AM IF
FM IF
C36 K330P
C35 M0.022
C38 50V4.7
C41 16V10
CF1
CF2
T2
T3
C30 50V2.2
C34 M0.022
C39 M0.01
R16 4.7K
C42 M0.01
C43 M0.033
R15 2.2K
R18 47
C37 6.3V220
C40 M0.022
R8 100
S1-1
S2-4
S3-4
D2
IC 3
C32 M0.01
R14 2.2K
PHASE DETECTOR
DC
VCO
PHASE DETECTOR
TRIGGER
STEREO SWITCH
DETECTOR
HF
AF
C45 50V0.1
C46 50V1
C29 50V1
R11 5.6K
C31 M0.022
C33 50V1
R12 1K
R13 820
C44 10.001
R17 8.2K
VR1 10K(B)
L11
L10
R20 6.8K
R19 6.8K
CS2 TO CP2
① MONO
② FM MUT
③ LED
④ +B
⑤ F.VC
⑥ GND
CS5 TO CP5
⑤ +B
④ BAND SW MUT
③ Rch OUT
② GND
① Lch OUT
S2
D3
D3 (MA165) SWITCHING (BAND)
C3 A1332L) MPX

agram are two types of number and production parts l diodes.
or supply parts number and which they are identical.

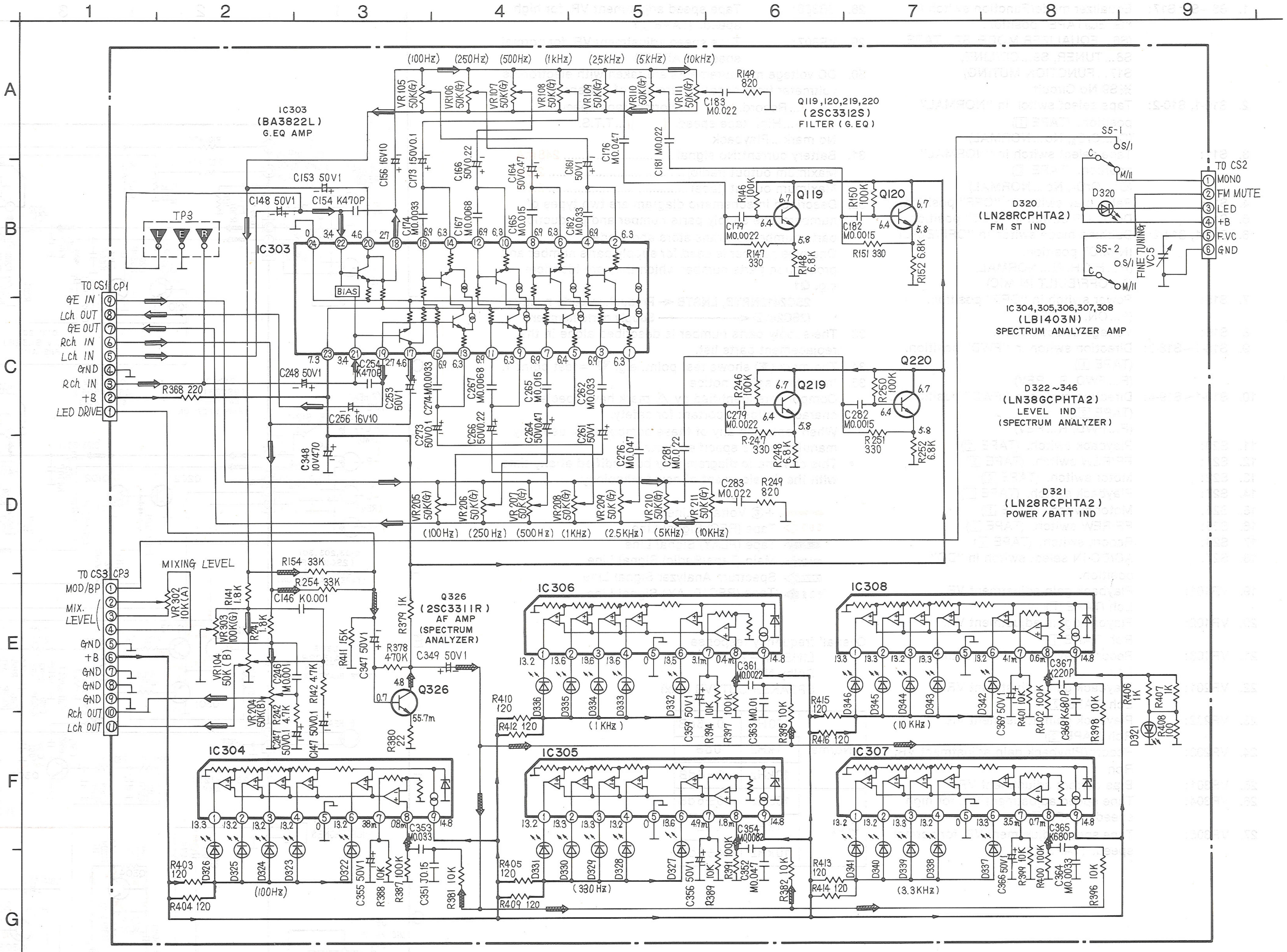
← Production parts number
— Supply parts number

5. THe supply parts number is described alone in the replacement parts list.
6. The mark (▼) shows test point. e.g. ▼=test point 1.

- **This schematic diagram may be modified at any time with the development of new technology.**

➡ +B Voltage Line
⇨ Radio (FM) Signal Line

SCHEMATIC DIAGRAM (GRAPHIC EQUALIZER)


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
IC303 (BA3822L) G.EQ AMP
(100Hz) (250Hz) (500Hz) (1kHz) (2.5kHz) (5KHz) (10kHz)
VR105 50K(G)
VR106 50K(G)
VR107 50K(G)
VR108 50K(G)
VR109 50K(G)
VR110 50K(G)
VR111 50K(G)
R149 820
C183 M0.022
Q119,120,219,220 (2SC3312S) FILTER (G.EQ)
Q119
Q120
Q219
Q220
TP3
L E R
IC303
BIAS
C153 50V1
C148 50V1
C154 K470P
C248 50V1
C254 K470P
C256 16V10
C348 10V470
R368 220
TO CS1 CP1
GE IN ⑨
Lch OUT ⑧
GE OUT ⑦
Rch IN ⑥
Lch IN ⑤
GND ④
Rch IN ③
+B ②
LED DRIVE ①
VR205 50K(G)
VR206 50K(G)
VR207 50K(G)
VR208 50K(G)
VR209 50K(G)
VR210 50K(G)
VR211 50K(G)
C283 M0.022
R249 820
(100Hz) (250Hz) (500Hz) (1KHz) (2.5KHz) (5KHz) (10KHz)
S5-1
S5-2
S/I
M/II
D320
FINE TUNING VC5
TO CS2
① MONO
② FM MUTE
③ LED
④ +B
⑤ F.VC
⑥ GND
D320 (LN28RCPHTA2) FM ST IND
IC304,305,306,307,308 (LB1403N) SPECTRUM ANALYZER AMP
D322~346 (LN38GCPHTA2) LEVEL IND (SPECTRUM ANALYZER)
D321 (LN28RCPHTA2) POWER / BATT IND
TO CS3 CP3
MOD/BP ①
MIX. LEVEL ② ③ ④
GND ⑤
+B ⑥
GND ⑦
GND ⑧
GND ⑨
Rch OUT ⑩
Lch OUT ⑪
MIXING LEVEL
VR302 10K(A)
VR303 100K(G)
R141 1.8K
R154 33K
R254 33K
C146 K0.001
VR104 50K(B)
VR204 50K(B)
Q326 (2SC3311R) AF AMP (SPECTRUM ANALYZER)
R379 1K
R378 470K
C349 50V1
R411 15K
C347 50V1
R380 22
IC306
IC308
IC304
IC305
IC307
(100Hz)
(330Hz)
(1KHz)
(3.3KHz)
(10KHz)
R403 120
R404 120
R405 120
R409 120
R410 120
R412 120
R413 120
R414 120
R415 120
R416 120
R406 1K
R407 1K
R408 100
D321

Notes:

1. S5-1, S5-2: FM Mode/B.P switch in "MONO/II" position. (S/I…STEREO/I, M/II…MONO/II)
2. VR104, 204: Volume control VR.
3. VR105~111, 205~211: Graphic equalizer control VR.
4. VR302: Mixing level adjustment VR.
5. VR303: Balance control VR.
6. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery. No. mark…Playback
7. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical. **e.g. Q1**
   2SC2412NRTB, LNSTB ← Production parts number
   (2SC2412) ←——— Supply parts number
8. The supply parts number is described alone in the replacement parts list.
9. The mark (▼) shows test point. e.g. ▼=test point L.

- **This schematic diagram may be modified at any time with the development of new technology.**

➡ +B Voltage Line
▨ Spectrum Analyzer Signal Line
⇨ Main (Radio/Tape) Signal Line

Notes:

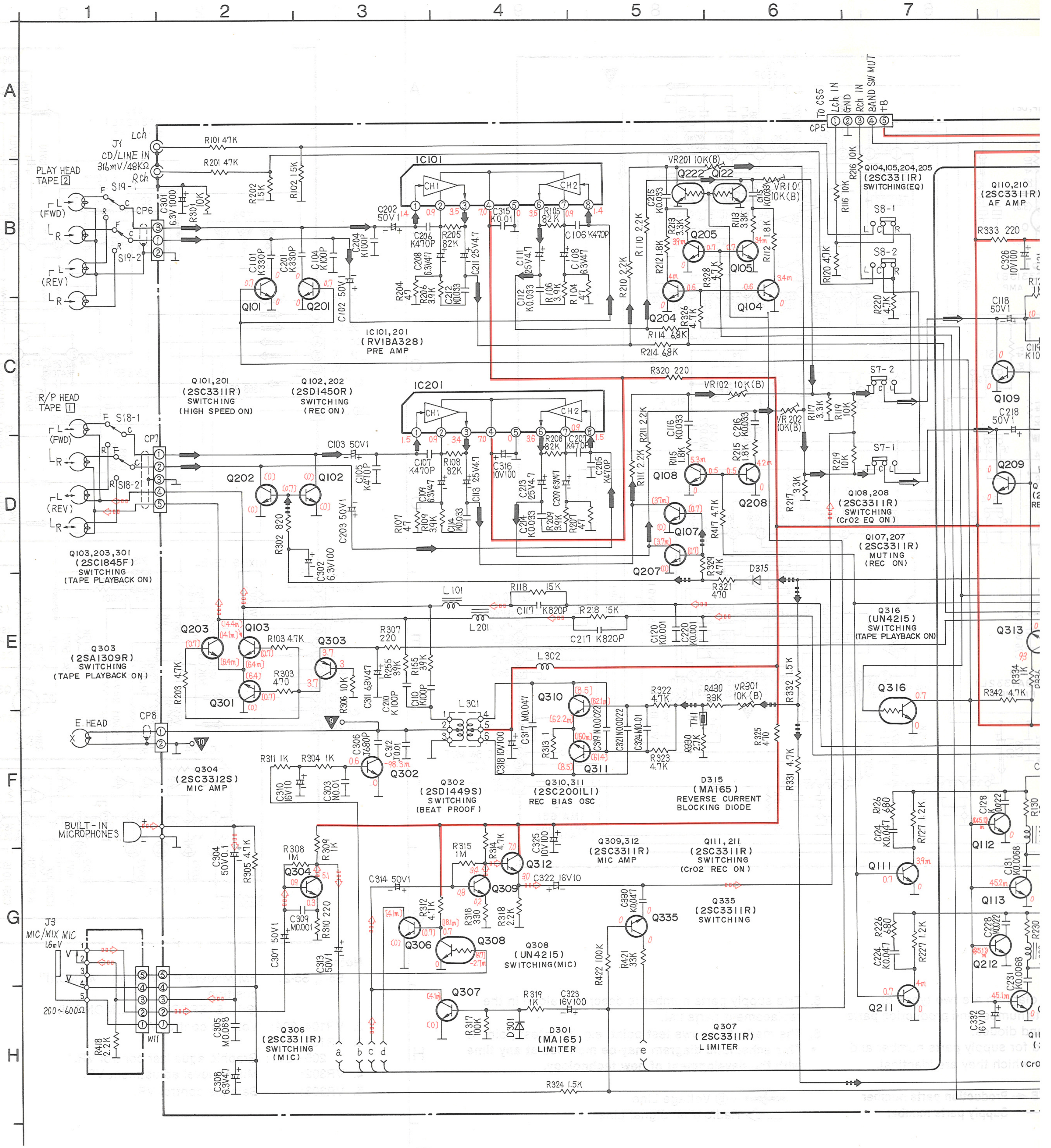
1. S6~S9, S17: Equalizer mode/Function switch in "G. EQ/TAPE" position.
   (S6…EQUALIZER MODE, S7…TAPE, S8…TUNER, S9…CD/LINE, S17…FUNCTION MUTING)
   ※S9 No Circuit
2. S10-1, S10-2: Tape select switch in "NORMAL" position. (TAPE [1])
   (Cr…CrO₂, No…NORMAL)
3. S11: Tape select switch in "NORMAL" position. (TAPE [2])
   (Cr…CrO₂, No…NORMAL)
4. S12: Relay play switch in "OFF" position.
5. S13: Dolby NR switch in "OUT" position.
6. S14-1, S14-2: Dubbing mode switch in "OFF/BUILT IN MIC" position.
   (H…HIGH, N…NORMAL, O…OFF/BUILT IN MIC)
7. S15: Power switch in "OFF" position.
   (1…ON, 3…OFF)
8. S16: Voltage select switch.
9. S18-1~S18-3: Direction switch in "FWD" position. (TAPE [1])
   (F…FWD, R…REV)
10. S19-1~S19-4: Direction switch in "FWD" position. (TAPE [2])
   (F…FWD, R…REV)
11. S20: Playback switch. (TAPE [2])
12. S21: FF/REW switch. (TAPE [2])
13. S22: Motor switch. (TAPE [2])
14. S23: Playback switch. (TAPE [1])
15. S24: Motor switch. (TAPE [1])
16. S25: FF/REW switch. (TAPE [1])
17. S26: Record switch. (TAPE [1])
18. S27: AC/DC IN select switch in "DC" position.
19. VR101: Playback gain adjustment VR. Lch (TAPE [1])
20. VR102: Playback gain adjustment VR. Rch (TAPE [1])
21. VR103: Record/Playback gain adjustment VR. Lch
22. VR201: Playback gain adjustment VR. Lch (TAPE [2])
23. VR202: Playback gain adjustment VR. Rch (TAPE [2])
24. VR203: Record/Playback gain adjustment VR. Rch
25. VR301: Bias current adjustment VR.
26. VR304: Tape speed adjustment VR, for high speed. (TAPE [1])
27. VR305: Tape speed adjustment VR, for normal speed. (TAPE [1])
28. VR306: Tape speed adjustment VR, for high speed. (TAPE [2])
29. VR307: Tape speed adjustment VR, for normal speed. (TAPE [2])
30. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ]…Record, (( ))…Normal tape speed,
   《 》…High tape speed, [[ ]]…T.T.S.
   No mark…Playback
31. Battery current:No signal .... 248 mA
   Maximum output (radio) .... 2.3 A
   Maximum output (tape) .... 2.6 A
32. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes.
   One type number is used for supply parts number and production parts number which they are identical.
   e.g. Q1
   2SC2412NRTB, LNSTB ◀— Production parts number
   (2SC2412) ◀———— Supply parts number
33. The supply parts number is described alone in the replacement parts list.
34. The mark (▼) shows test point. e.g. ▼1 =test point 1.
35. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.

- **This schematic diagram may be modified at any time with the development of new technology.**

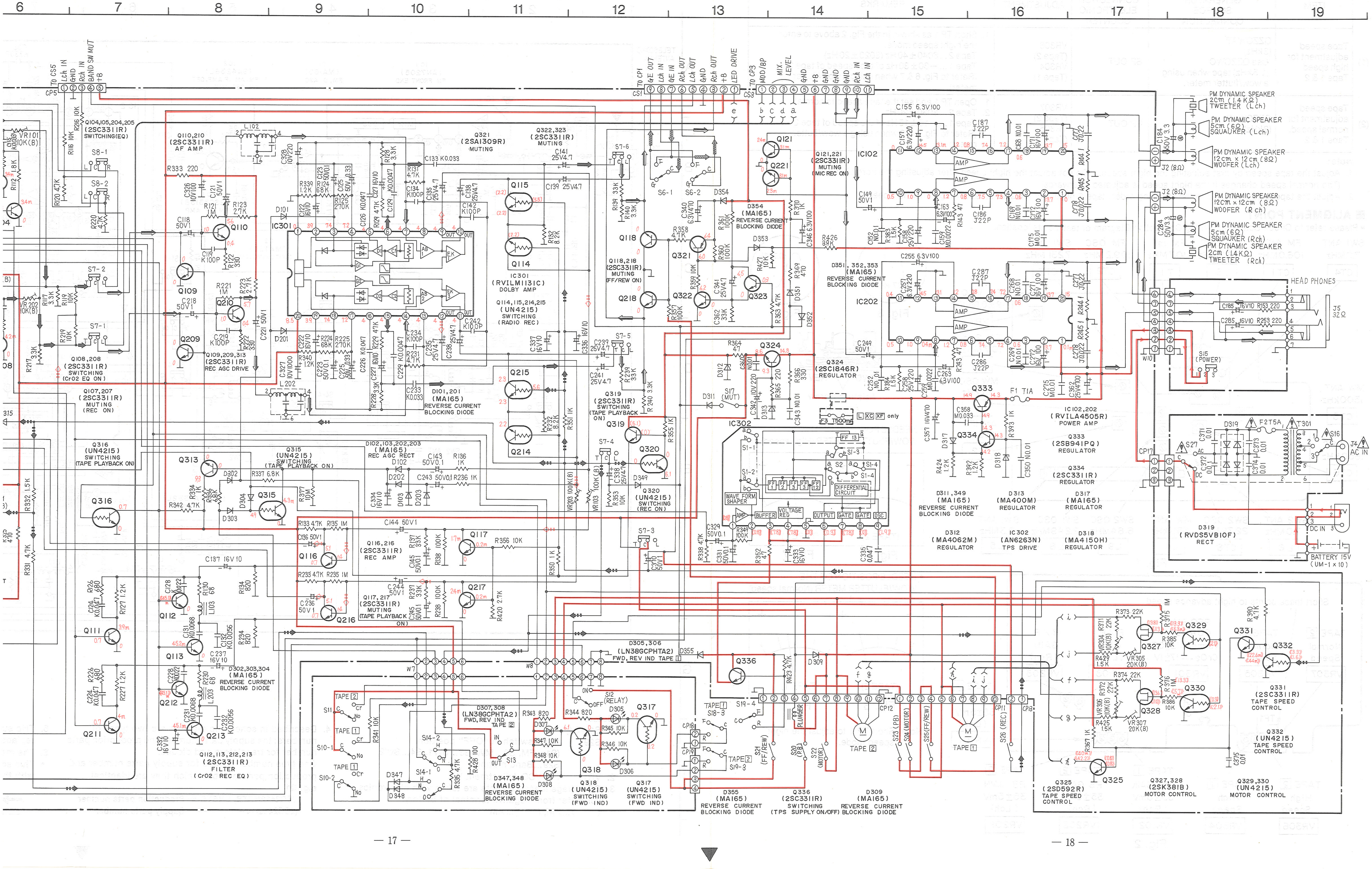
🟥 +Ⓑ Voltage Line
▯▯▯⇨ Tape (REC) Signal Line
➡ Tape (PLAY) Signal Line
⇨ Main (Tape/Radio) Signal Line
▨⇨ Spectrum Analyzer Signal Line
▮▮▮➡ Tape (REC/PLAY) Signal Line

Over-all frequency response
LINE IN −22dB
Dolby NR. IN
SPEAKER OUT (VR max)

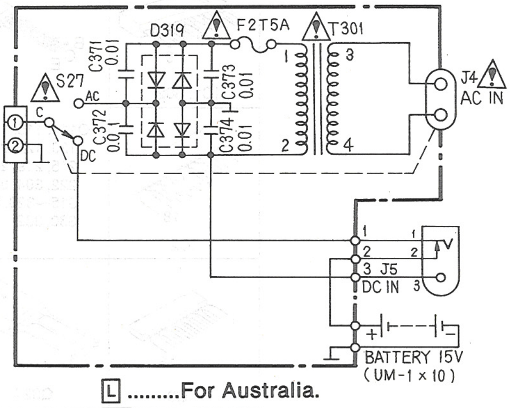
Normal	100 Hz	0±6dB
	1 kHz	0dB
	10 kHz	−2±6dB
CrO₂	100 Hz	0±6dB
	1 kHz	0dB
	10 kHz	−4±6dB


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
PLAY HEAD TAPE [2]
J1 CD/LINE IN 316mV/48KΩ
Lch
Rch
S19-1
S19-2
CP6
IC101
IC201
IC101,201 (RVIBA328) PRE AMP
Q101,201 (2SC3311R) SWITCHING (HIGH SPEED ON)
Q102,202 (2SD1450R) SWITCHING (REC ON)
R/P HEAD TAPE [1]
S18-1
S18-2
CP7
Q103,203,301 (2SC1845F) SWITCHING (TAPE PLAYBACK ON)
Q303 (2SA1309R) SWITCHING (TAPE PLAYBACK ON)
E. HEAD
CP8
Q304 (2SC3312S) MIC AMP
Q302 (2SD1449S) SWITCHING (BEAT PROOF)
Q310,311 (2SC2001L1) REC BIAS OSC
D315 (MA165) REVERSE CURRENT BLOCKING DIODE
BUILT-IN MICROPHONES
J3 MIC/MIX MIC 1.6mV 200~600Ω
Q309,312 (2SC3311R) MIC AMP
Q111,211 (2SC3311R) SWITCHING (CrO2 REC ON)
Q335 (2SC3311R) SWITCHING
Q308 (UN4215) SWITCHING(MIC)
Q306 (2SC3311R) SWITCHING (MIC)
D301 (MA165) LIMITER
Q307 (2SC3311R) LIMITER
Q104,105,204,205 (2SC3311R) SWITCHING(EQ)
Q110,210 (2SC3311R) AF AMP
Q108,208 (2SC3311R) SWITCHING (CrO2 EQ ON)
Q107,207 (2SC3311R) MUTING (REC ON)
Q316 (UN4215) SWITCHING (TAPE PLAYBACK ON)
VR201 10K(B)
VR101 10K(B)
VR102 10K(B)
VR202 10K(B)
VR301 10K(B)
S8-1
S8-2
S7-2
S7-1
CP5
To CS5
Lch IN
GND
Rch IN
BAND SW MUT
+B
L101
L201
L302
L301
Q313
Q316
Q109
Q209
Q112
Q212
Q113
Q211

SCHEMATIC DIAGRAM (AUDIO)


6
7
8
9
10
11
12
13
14
15
16
17
18
19
To CS5
Lch IN
GND
Rch IN
BAND SW MUT
+B
CP5
CS1
CS3
To CP1
G.E OUT
Lch IN
G.E IN
Rch OUT
Lch OUT
GND
Rch OUT
+B
LED DRIVE
To CP3
MOD/BP
MIX.
LEVEL
Q104,105,204,205
(2SC3311R)
SWITCHING(EQ)
Q110,210
(2SC3311R)
AF AMP
Q321
(2SA1309R)
MUTING
Q322,323
(2SC3311R)
MUTING
Q121,221
(2SC3311R)
MUTING
(MIC REC ON)
IC102
IC202
IC301
IC301
(RVILM1131C)
DOLBY AMP
Q114,115,214,215
(UN4215)
SWITCHING
(RADIO REC)
Q118,218
(2SC3311R)
MUTING
(FF/REW ON)
D354
(MA165)
REVERSE CURRENT
BLOCKING DIODE
D351, 352, 353
(MA165)
REVERSE CURRENT
BLOCKING DIODE
Q108,208
(2SC3311R)
SWITCHING
(CrO2 EQ ON)
Q109,209,313
(2SC3311R)
REC AGC DRIVE
Q107,207
(2SC3311R)
MUTING
(REC ON)
D101,201
(MA165)
REVERSE CURRENT
BLOCKING DIODE
Q319
(2SC3311R)
SWITCHING
(TAPE PLAYBACK ON)
Q324
(2SC1846R)
REGULATOR
IC102,202
(RVILA4505R)
POWER AMP
Q333
(2SB941PQ)
REGULATOR
Q334
(2SC3311R)
REGULATOR
Q316
(UN4215)
SWITCHING
(TAPE PLAYBACK ON)
Q315
(UN4215)
SWITCHING
(TAPE PLAYBACK ON)
D102,103,202,203
REC AGC RECT
Q320
(UN4215)
SWITCHING
(REC ON)
IC302
WAVE FORM SHAPER
BUFFER
VOLTAGE REG
OUTPUT
GATE
GATE
OSC
DIFFERENTIAL CIRCUIT
D311,349
(MA165)
REVERSE CURRENT
BLOCKING DIODE
D313
(MA400M)
REGULATOR
D317
(MA165)
REGULATOR
D312
(MA4062M)
REGULATOR
IC302
(AN6263N)
TPS DRIVE
D318
(MA4150H)
REGULATOR
D319
(RVDS5VB10F)
RECT
Q116,216
(2SC3311R)
REC AMP
Q117,217
(2SC3311R)
MUTING
(TAPE PLAYBACK ON)
Q112,113,212,213
(2SC3311R)
FILTER
(CrO2 REC EQ)
D302,303,304
(MA165)
REVERSE CURRENT
BLOCKING DIODE
D305,306
(LN38GCPHTA2)
FWD, REV IND TAPE 1
D307,308
(LN38GCPHTA2)
FWD, REV IND
TAPE 2
D347,348
(MA165)
REVERSE CURRENT
BLOCKING DIODE
Q318
(UN4215)
SWITCHING
(FWD IND)
Q317
(UN4215)
SWITCHING
(FWD IND)
D355
(MA165)
REVERSE CURRENT
BLOCKING DIODE
Q336
(2SC3311R)
SWITCHING
(TPS SUPPLY ON/OFF)
D309
(MA165)
REVERSE CURRENT
BLOCKING DIODE
Q325
(2SD592R)
TAPE SPEED
CONTROL
Q327,328
(2SK381B)
MOTOR CONTROL
Q329,330
(UN4215)
MOTOR CONTROL
Q331
(2SC3311R)
TAPE SPEED
CONTROL
Q332
(UN4215)
TAPE SPEED
CONTROL
PM DYNAMIC SPEAKER
2cm (1.4KΩ)
TWEETER (Lch)
PM DYNAMIC SPEAKER
5cm (6Ω)
SQUAUKER (Lch)
PM DYNAMIC SPEAKER
12cm x 12cm (8Ω)
WOOFER (Lch)
PM DYNAMIC SPEAKER
12cm x 12cm (8Ω)
WOOFER (Rch)
PM DYNAMIC SPEAKER
5cm (6Ω)
SQUAUKER (Rch)
PM DYNAMIC SPEAKER
2cm (1.4KΩ)
TWEETER (Rch)
HEAD PHONES
J5
32Ω
S15
(POWER)
J4
AC IN
DC IN
BATTERY 15V
(UM-1 x 10)
F1 T1A
F3 T500mA
L XC XF only
F2 T5A
T301
S17 (MUT)
S12 (RELAY)
ON
OFF
TAPE 2
TAPE 1
M
S21 (FF/REW)
S20 (PB)
S22 (MOTOR)
S23 (PB)
S24 (MOTOR)
S25 (FF/REW)
S26 (REC)
PLUNGER
AMP
AMP
AMP
AMP

ELECTRICAL PARTS LOCATION



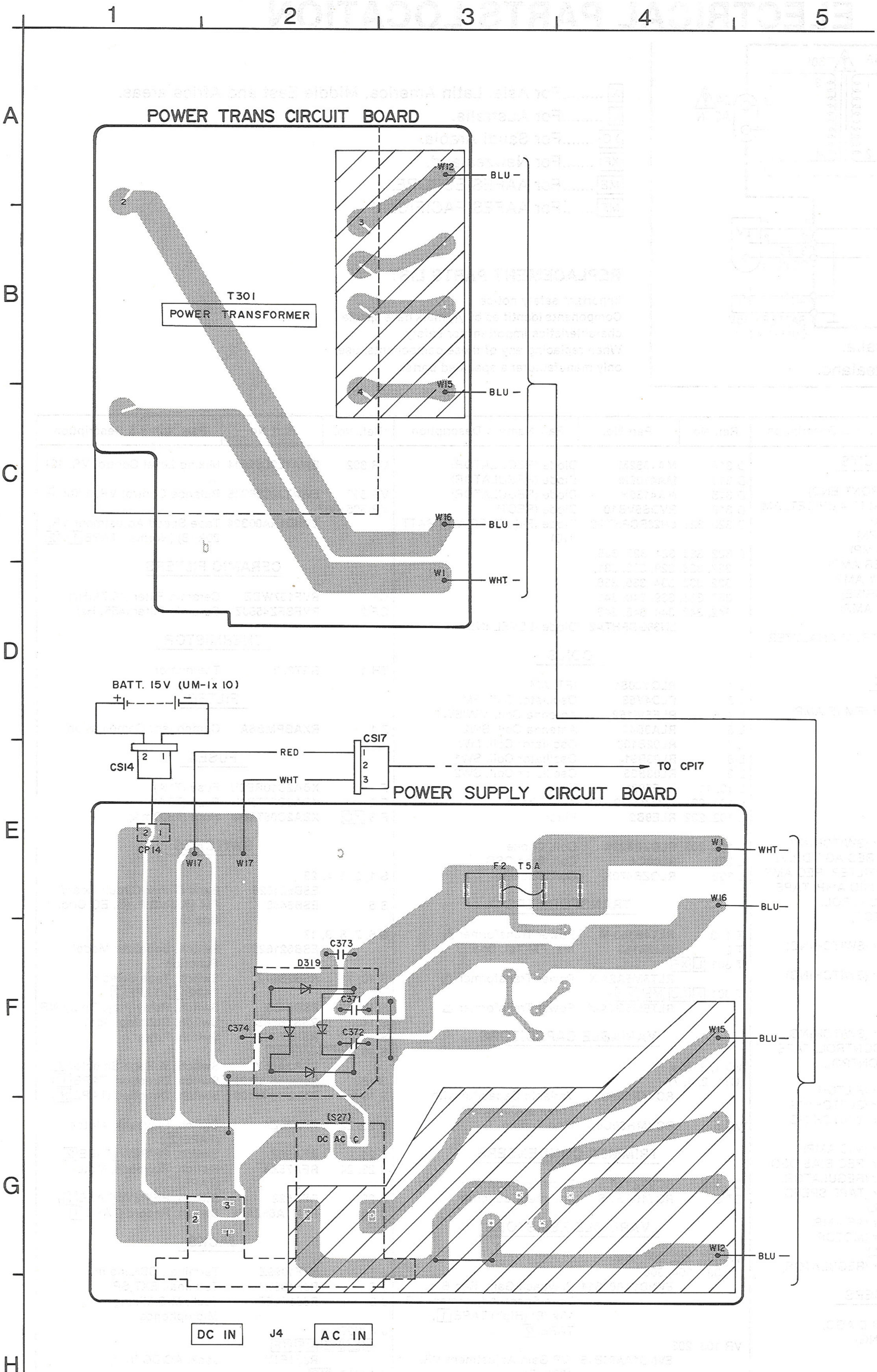
L ....For Australia.
XF ....For Newzealand.

X ....For Asia, Latin America, Middle East and Africa areas.
L ....For Australia.
XC ....For Saudi Arabia.
XF ....For Newzealand.
ME ....For AAFES EUROPE.
MF ....For AAFES PACIFIC.

REPLACEMENT PARTS LIST

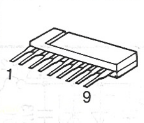
Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC 1	**AN7205**	IC (FM FRONT END)
IC 2	**BA4236L**	IC (FM/AM IF AMP DET. AM OSC. MIX)
IC 3	**RViBA1332L**	IC (FM MPX)
IC 101, 201	**RViBA328**	IC (PRE AMP)
IC 102, 202	**RViLA4505R**	IC (POWER AMP)
IC 301	**RViLM1131C**	IC (DOLBY AMP)
IC 302	**AN6263N**	IC (TPS DRIVE)
IC 303	**BA3822LS**	IC (G. EQ AMP)
IC 304, 305, 306, 307, 308	**LB1403N**	IC (SPECTRUM ANALYZER AMP)
TRANSISTORS		
Q 1	**2SC3313B**	Transistor (FM IF AMP)
Q 101, 104, 105, 107, 108, 109, 110, 111, 112, 113, 116, 117, 118, 121, 201, 204, 205, 207, 208, 209, 210, 211, 212, 213, 216, 217, 218, 221, 306, 307, 309, 312, 313, 319, 322, 323, 331, 334, 335, 336	**2SC3311R**	Transistor (SWITCHING, MUTING, REC AGC DRIVE, AF AMP, FILTER, REC AMP, LIMITER, MIC AMP, TAPE SPEED CONTROL, REGULATOR)
Q 102, 202	**2SD1450T**	Transistor (SWITCHING)
Q 103, 203, 301	**2SC1845F**	Transistor (SWITCHING)
Q 114, 115, 122, 214, 215, 222, 308, 315, 316, 317, 318, 320, 329, 330, 332	**UN4215**	Transistor (SWITCHING, MOTOR CONTROL, TAPE SPEED CONTROL)
Q 119, 120, 219, 220	**2SC3312S**	Transistor (FILTOR)
Q 302	**2SD1449S**	Transistor (SWITCHING)
Q 303, 321	**2SA1309R**	Transistor (SWITCHING, MUTING)
Q 304	**2SC3312S**	Transistor (MIC AMP)
Q 310, 311	**2SC2001L1**	Transistor (REC BIAS OSC)
Q 324	**2SC1846R**	Transistor (REGULATOR)
Q 325	**2SD592R**	Transistor (TAPE SPEED CONTROL)
Q 326	**2SC3311R**	Transistor (AF AMP)
Q 327, 328	**2SK381B**	Transistor (MOTOR CONTROL)
Q 333	**2SB941**	Transistor (REGULATOR)
DIODES & RECTIFIERS		
D 1, 2, 3	**MA165**	Diode (FM D.AGC, SWITCHING)
D 101, 102, 103, 201, 202, 203, 301, 302, 303, 304, 309, 311, 315, 317, 347, 348, 349, 351, 352, 353, 354, 355	**MAU65**	Diode (REVERSE CURRENT BLOCKING DIODE, REC AGC CONTROL, LIMITER, REGULATOR)
D 305, 306, 307, 308	**LN38GCPHTA2**	Diode (FWD, REV IND TAPE 1, 2)
D 312	**MA4062M**	Diode (REGULATOR)
D 313	**MA4100M**	Diode (REGULATOR)
D 318	**MA4150H**	Diode (REGULATOR)
D 319	**RVDS5VB10**	Diode (RECT)
D 320, 321	**LN28RCPHTA2**	Diode (FM ST, POWER/BATT IND)
D 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346	**LN38GCPHTA2**	Diode (LEVEL IND)
COILS		
L 1	**RLQY30S1**	IFT, AM
L 3	**RLD4Y53**	Oscillator Coil, FM
L 4, 5	**RLF5W152**	Antenna Coil, MW/SW1
L 6	**RLA3B44**	Antenna Coil, SW2
L 7	**RL02B108**	Oscillator Coil, MW
L 8	**RL03B91**	Oscillator Coil, SW1
L 9	**RL03B95**	Oscillator Coil, SW2
L 10, 11	**RLE5031**	Filter
L 101, 201	**RLQZM473J-MB**	Coil, Choke
L 102, 202	**RLE9B2**	Filter
L 103, 203	**RLQZB822K**	Coil, Choke
L 301	**RL08C4**	Coil, Bias OSC
L 302	**RLQZB470K**	Coil, Choke
TRANSFORMERS		
T 1, 3	**RLT4B153-M**	Power Transformer ⚠
T 2	**RLi2B153**	IFT, FM 1st, 2nd
T 301 L XF	**RLT5M5A2A-X**	Power Transformer ⚠
T 301 X XC ME MF	**RLT5M5G1A-X**	Power Transformer ⚠
VARIABLE CAPACITORS		
VC 1, 2, 3, 4 (CT1, 2, 4, 7)	**RCV4RC2RA**	Variable Capacitor/with Trimmer Capacitor
VC 5	**RCVMH60C8**	Fine Tuning
TRIMMER CONDENSERS		
CT 3, 6	**RCVTZ11F**	Trimmer Capacitor
CT 8	**RCV10AF1-S**	Trimmer Capacitor
VARIABLE RESISTORS		
VR 101, 102, 201, 202, 301, 304, 306	**EVND1AA00B14**	Playback Gain, Rec Bias, Tape Speed Adjustment VR, 10k (B) (High) TAPE 1, TAPE 2
VR 103, 203	**EVND1AA00B15**	R/P Gain Adjustment VR, 100k (B)
VR 104, 204	**EWATF2T50B54**	Volume Control VR, 50k (B)
VR 105, 106, 107, 108, 109, 110, 111, 205, 206, 207, 208, 209, 210, 211	**EWATA6C95G54**	Graphic Equalizer Control VR, 50k (G)
VR 302	**EWATL2C95A14**	Mixing Level Control VR, 10k (A)
VR 303	**EWATJ2C95G15**	Balance Control VR, 100k (G)
VR 305, 307	**EVND1AA00B24**	Tape Speed Adjustment VR, 20k (B) (Normal) TAPE 1, 2
CERAMIC FILTERS		
CF 1	**RVF107WDZ**	Ceramic Filter (10.7MHz)
CF 2	**RVFSFZ455JZ**	Ceramic Filter (455kHz)
THERMISTOR		
TH 1	**RRT202**	Thermistor
FILTER		
Z 1	**RXABPMB6A**	Component Combination
FUSES		
F 1	**XBA2C10RB0U**	Fuse (T1A)
F 2	**XBA2C50TB0U**	Fuse (T5A)
F 3 XC	**XBA2C05TB0U**	Fuse (T500mA)
SWITCHES		
S 1, 2, 3, 4, 29	**ESB621626**	Band (Tuner Circuit Board)
S 5	**ESB6488**	FM Mode/B.P. (G. EQ Circuit Board)
S 6, 7, 8, 9, 17	**ESB621625**	Switch, Equalizer Mode/ Function
S 10, 11	**RSS2B57Z**	Switch, Tape Selector TAPE 1, TAPE 2
S 12, 13	**ESB6488**	Switch, Relay Play, Dolby NR
S 14	**RSS3B38Z**	Switch, Dubbing Mode
S 15	**RSH2B37Z**	Switch, Power
S 16 X XC ME MF	**RSR3A01Y**	Switch, Voltage Selector ⚠
S 18	**Refer to M109**	Switch, Direction (TAPE 1)
S 19	**Refer to M109**	Switch, Direction (TAPE 2)
S 20, 22	**RFA75ZA**	Switch, Playback, Motor (TAPE 2)
S 21	**RFA52Z**	Switch, FF/REW (TAPE 2)
S 23, 24	**RFA75ZA**	Switch, Playback, Motor (TAPE 1)
S 25	**RFA52Z**	Switch, FF/REW (TAPE 1)
S 26	**RSH1A68ZA-U**	Switch, Record (TAPE 1)
JACKS		
J 1	**RJF1099Z**	Terminal, CD/Line In
J 2	**RJF1098Y**	Terminal, EXT SP
J 3	**RJJ1D25Z**	Jack, MIC/Mixing Microphones
J 4 (S27) X L ME MF XF	**RJJ1F1Y**	Jack, AC/DC IN ⚠
J 4 (S27) XC	**RJJ1F3Z**	Jack, AC/DC IN ⚠
J 5	**RJJ1D27Z**	Jack, Headphones
J 6	**RJF1095Z**	Terminal, EXT Antenna

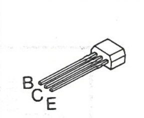

1
2
3
4
5
A
B
C
D
E
F
G
H
POWER TRANS CIRCUIT BOARD
T301
POWER TRANSFORMER
2
3
4
W12
W15
W16
W1
BLU
BLU
BLU
WHT
BATT. 15V (UM-1x 10)
CS14
2 1
CS17
1
2
3
RED
WHT
TO CP17
POWER SUPPLY CIRCUIT BOARD
CP14
W17
W17
W1
WHT
F2 T5A
W16
BLU
C373
D319
C371
C374
C372
W15
BLU
(S27)
DC AC C
3
2
W12
BLU
DC IN
J4
AC IN

L ....For Australia.

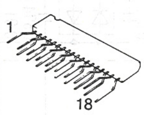
XF ....For Newzealand.



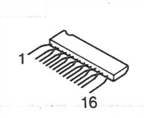
IC1, 302



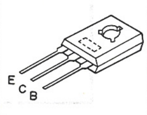
Q114, 115, 119, 120, 122, 214, 215, 219, 220, 222, 304, 308, 315~320, 329, 330, 332



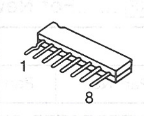
IC2



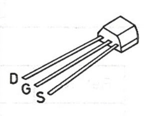
IC3



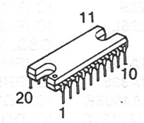
Q324



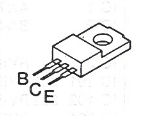
IC101, 201



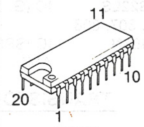
Q327, 328



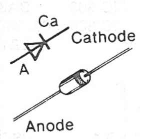
IC102, 202

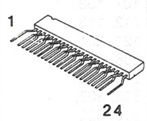


Q333

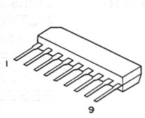


IC301

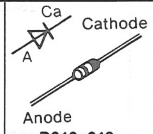

Ca
Cathode
A
Anode
D1~3, 101~103, 201~203, 301~304, 309, 311, 312, 315, 317, 347~349, 351~355

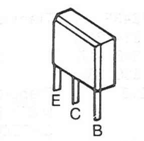


IC303

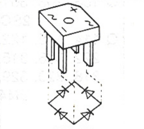


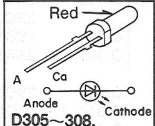
IC304~308

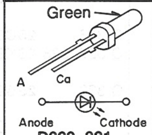

Ca
Cathode
A
Anode
D313, 318

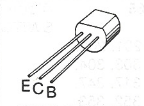


Q1, 101, 102, 104~113, 116~118, 121, 201, 202, 204, 205, 207~213, 216~218, 221, 302, 303, 306, 307, 309, 312, 313, 319, 321~323, 326, 331, 334~336


D319

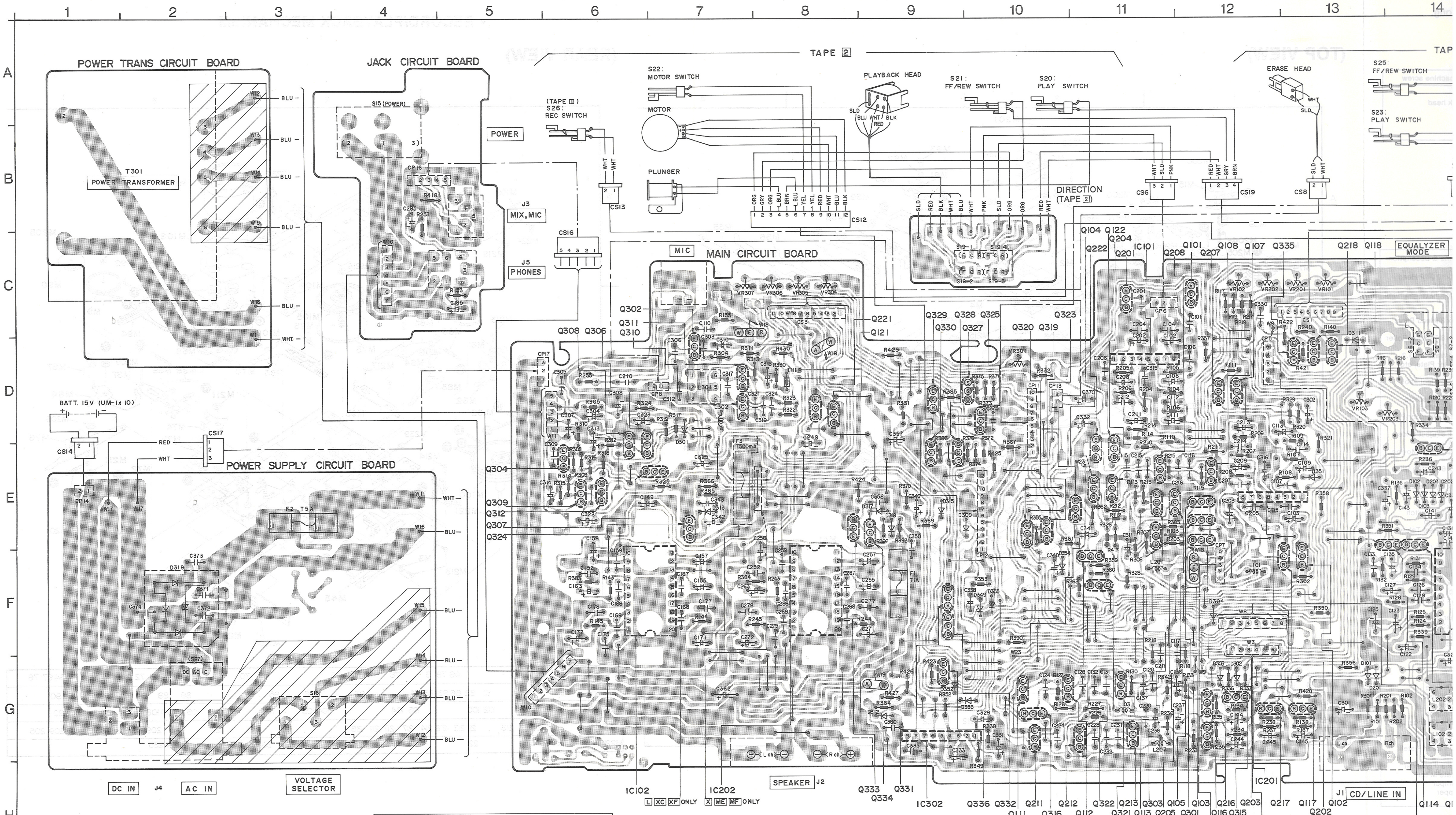

Red
A
Ca
Anode
Cathode
D305~308, 322~346


Green
A
Ca
Anode
Cathode
D320, 321



Q103, 203, 301, 310, 311, 325

CIRCUIT BOARD AND WIRING CONN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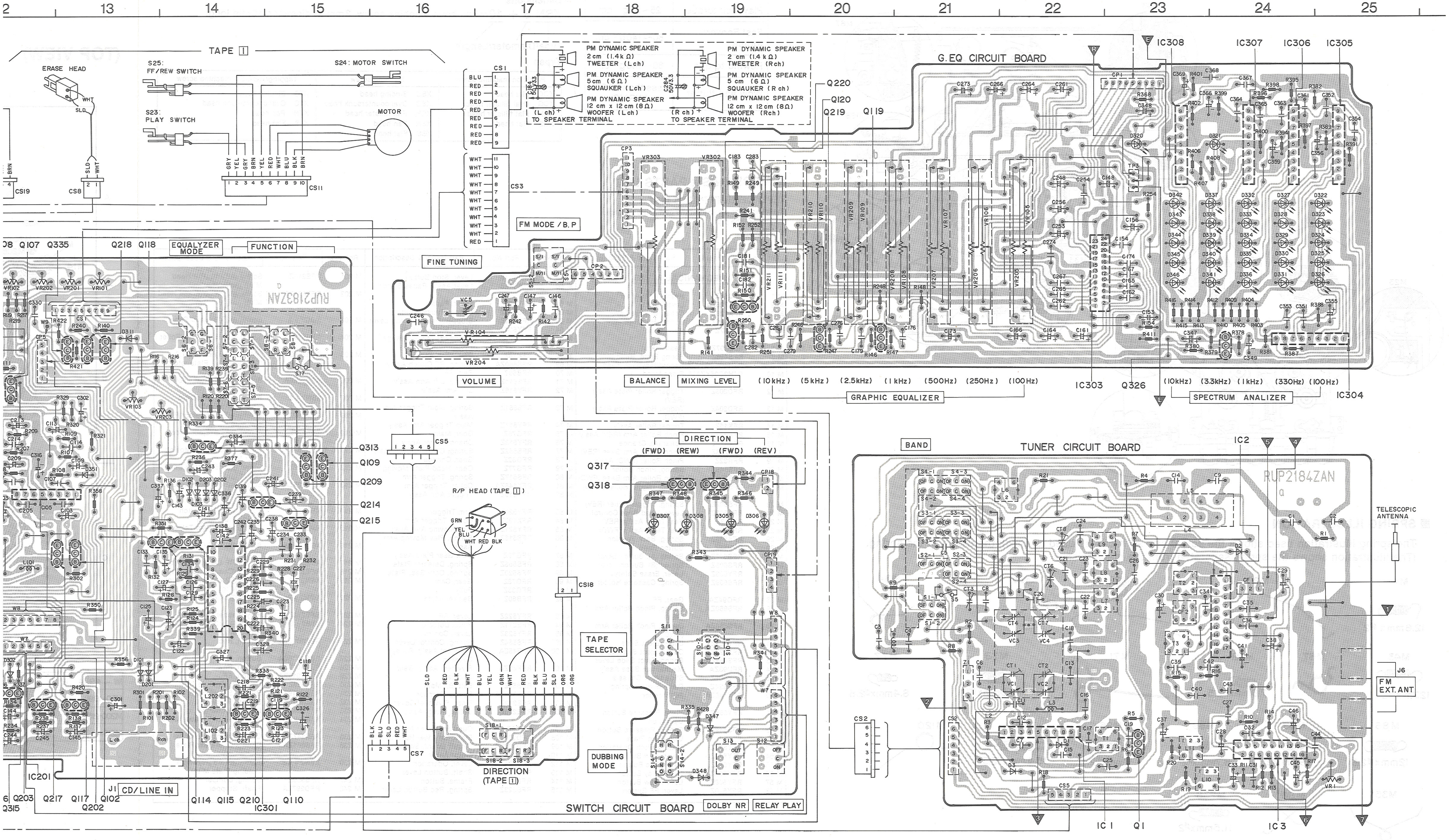
E
F
G
H
POWER TRANS CIRCUIT BOARD
T301
POWER TRANSFORMER
W12
W13
W14
W15
W16
W1
BLU
WHT
JACK CIRCUIT BOARD
S15 (POWER)
POWER
CP16
R418
C285
R253
J3
MIX, MIC
W10
J5
PHONES
R153
C185
CS16
TAPE 2
(TAPE 1)
S26:
REC SWITCH
CS13
S22:
MOTOR SWITCH
MOTOR
PLUNGER
CS12
PLAYBACK HEAD
SLD
BLU
WHT
BLK
RED
S21:
FF/REW SWITCH
S20:
PLAY SWITCH
DIRECTION
(TAPE 2)
CS6
CS19
ERASE HEAD
CS8
S25:
FF/REW SWITCH
S23:
PLAY SWITCH
S19-1
S19-2
S19-3
S19-4
MIC
MAIN CIRCUIT BOARD
EQUALIZER MODE
BATT. 15V (UM-1x10)
CS14
CS17
RED
WHT
POWER SUPPLY CIRCUIT BOARD
CP14
W17
F2 T5A
D319
C373
C371
C372
C374
(S27)
DC AC C
S16
F3
T500mA
F1
T1A
DC IN
J4
AC IN
VOLTAGE SELECTOR
SPEAKER
J2
L ch
R ch
IC102
L XC XF ONLY
IC202
X ME MF ONLY
IC302
IC201
IC101
J1
CD/LINE IN
Q302
Q311
Q310
Q308
Q306
Q304
Q309
Q312
Q307
Q324
Q221
Q121
Q329
Q328
Q325
Q330
Q327
Q320
Q319
Q323
Q104
Q122
Q204
Q222
Q201
Q206
Q101
Q207
Q108
Q107
Q335
Q218
Q118
Q333
Q334
Q331
Q336
Q332
Q111
Q211
Q316
Q212
Q112
Q322
Q213
Q321
Q113
Q303
Q205
Q105
Q301
Q103
Q216
Q116
Q203
Q315
Q217
Q117
Q202
Q102
Q114

CAUTION
RISK OF ELECTRIC SHOCK

▨ AC voltage line. Please do not touch this portion.

AND WIRING CONNECTION DIAGRAM


2
13
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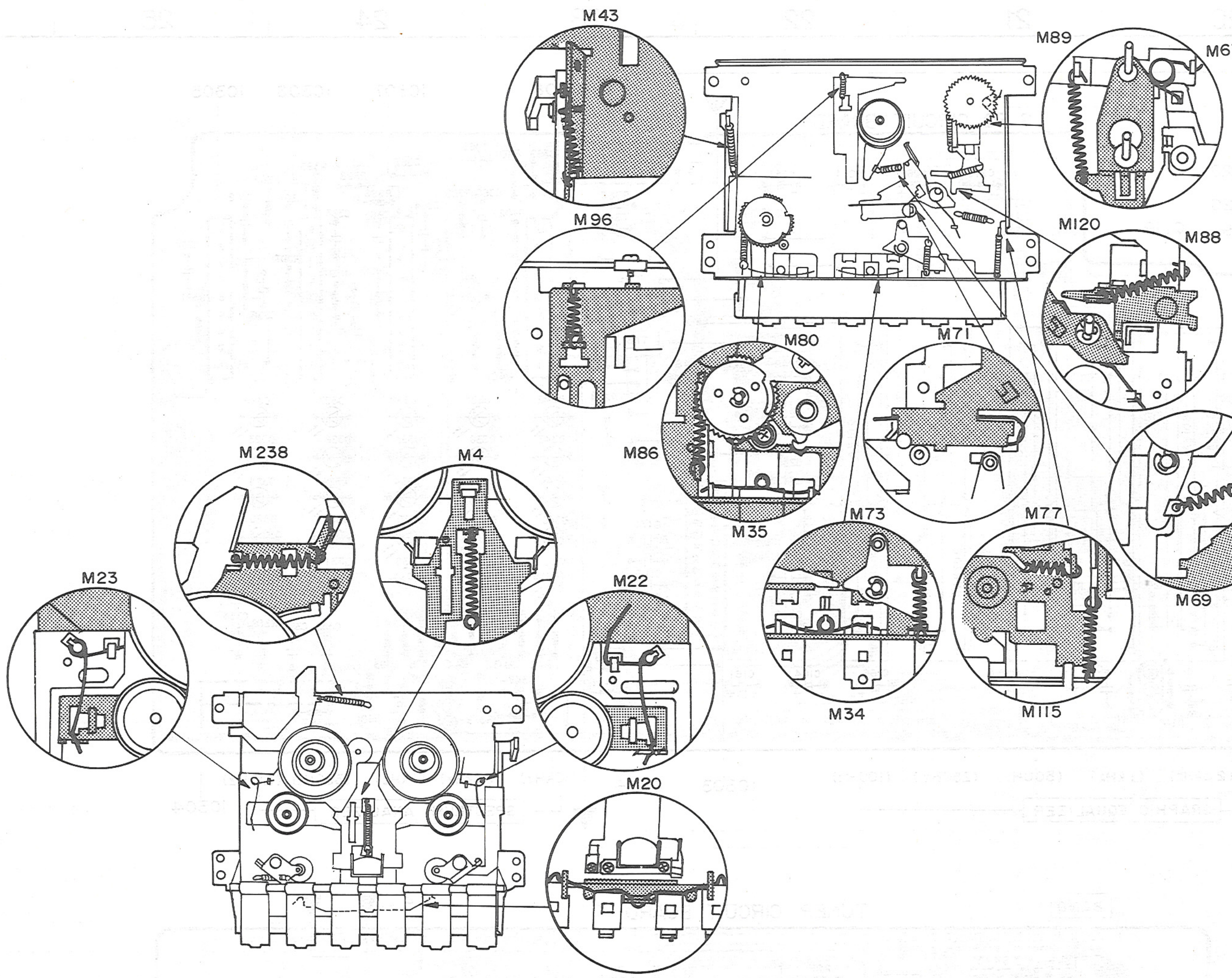
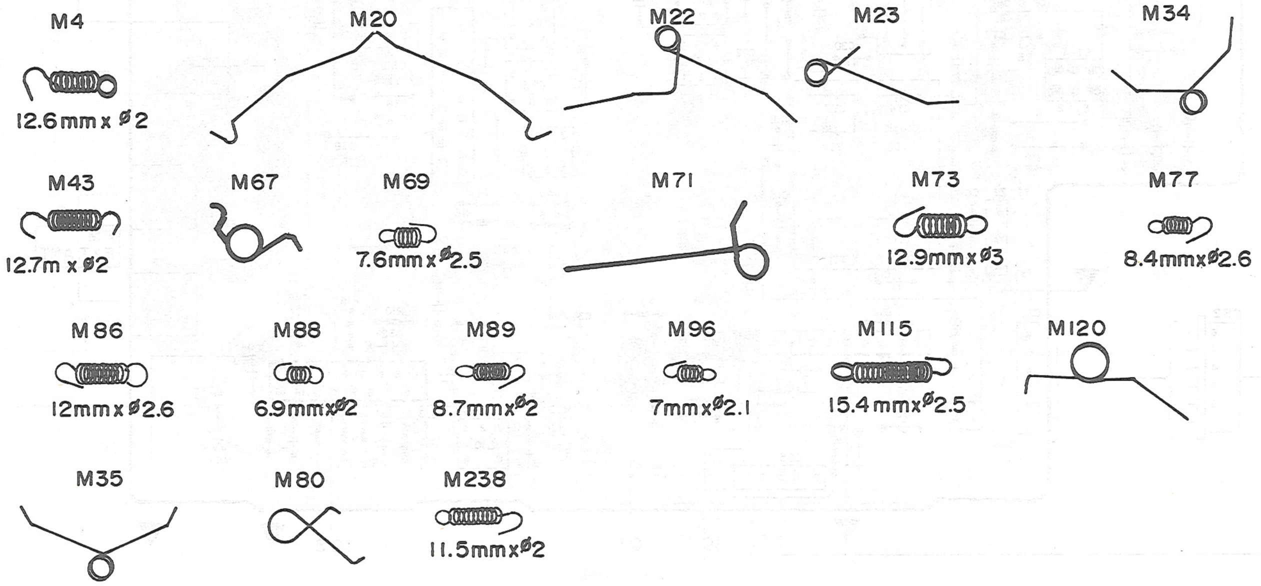
24
25
TAPE Ⅱ
ERASE HEAD
S25: FF/REW SWITCH
S24: MOTOR SWITCH
S23: PLAY SWITCH
MOTOR
CS19
CS8
CS11
CS1
CS3
PM DYNAMIC SPEAKER 2 cm (1.4kΩ) TWEETER (Lch)
PM DYNAMIC SPEAKER 5cm (6Ω) SQUAUKER (Lch)
PM DYNAMIC SPEAKER 12 cm x 12 cm (8Ω) WOOFER (Lch)
(L ch) TO SPEAKER TERMINAL
PM DYNAMIC SPEAKER 2 cm (1.4kΩ) TWEETER (Rch)
PM DYNAMIC SPEAKER 5 cm (6Ω) SQUAUKER (R ch)
PM DYNAMIC SPEAKER 12 cm x 12 cm (8Ω) WOOFER (Rch)
(R ch) TO SPEAKER TERMINAL
Q220
Q120
Q219
Q119
G.EQ CIRCUIT BOARD
IC308
IC307
IC306
IC305
FM MODE / B.P
FINE TUNING
EQUALYZER MODE
FUNCTION
RUP2183ZAN
VOLUME
BALANCE
MIXING LEVEL
(10kHz) (5kHz) (2.5kHz) (1kHz) (500Hz) (250Hz) (100Hz)
GRAPHIC EQUALIZER
IC303
Q326
(10kHz) (3.3kHz) (1kHz) (330Hz) (100Hz)
SPECTRUM ANALIZER
IC304
Q107
Q335
Q218
Q118
Q313
Q109
Q209
Q214
Q215
CS5
R/P HEAD (TAPE Ⅱ)
DIRECTION
(FWD) (REW) (FWD) (REV)
Q317
Q318
CS18
TAPE SELECTOR
DUBBING MODE
DIRECTION (TAPE Ⅱ)
CS7
IC201
Q315
Q203
Q217
Q117
Q202
Q102
J1 CD/LINE IN
Q114
Q115
Q210
IC301
Q110
SWITCH CIRCUIT BOARD
DOLBY NR
RELAY PLAY
BAND
TUNER CIRCUIT BOARD
IC2
RUP2184ZAN
TELESCOPIC ANTENNA
J6
FM EXT. ANT
CS2
IC1
Q1
IC3

SPRING PARTS LOCATION



■ SPRING ILLUSTRATION

The spring illustration used shows the actual size so it can be used to check the shape of the spring. (The illustration shows the spring separated from the mechanism.)



Specifications

Playback torque	25~55g · cm
Fast Forward torque	80~140g · cm
Rewind torque	80~140g · cm
Wow and flutter	Less than 0.35% (WRMS)

Screw Dimensions Quick Reference

- **Dimensions**

XSN 3 + 10=Pan head machine screw, 3mm in diameter, 10mm long.

Type/Diameter/Length

- **Types**

Precision machine screw	Machine screw	Tapping/Tap-tight machine screw
XQC Flat head	XSB Binding head	XTB Binding head
XQG Oval fillister head	XSC Oval countersunk head	XTC Oval countersunk head
XQH Flat fillister head	XSH Flat fillister head	XTN Pan head
XQS Flat head	XSN Pan head	XTS Flat head
	XSS Flat head	

■ MECHANISM PARTS LIST

REPLACEMENT PARTS LIST

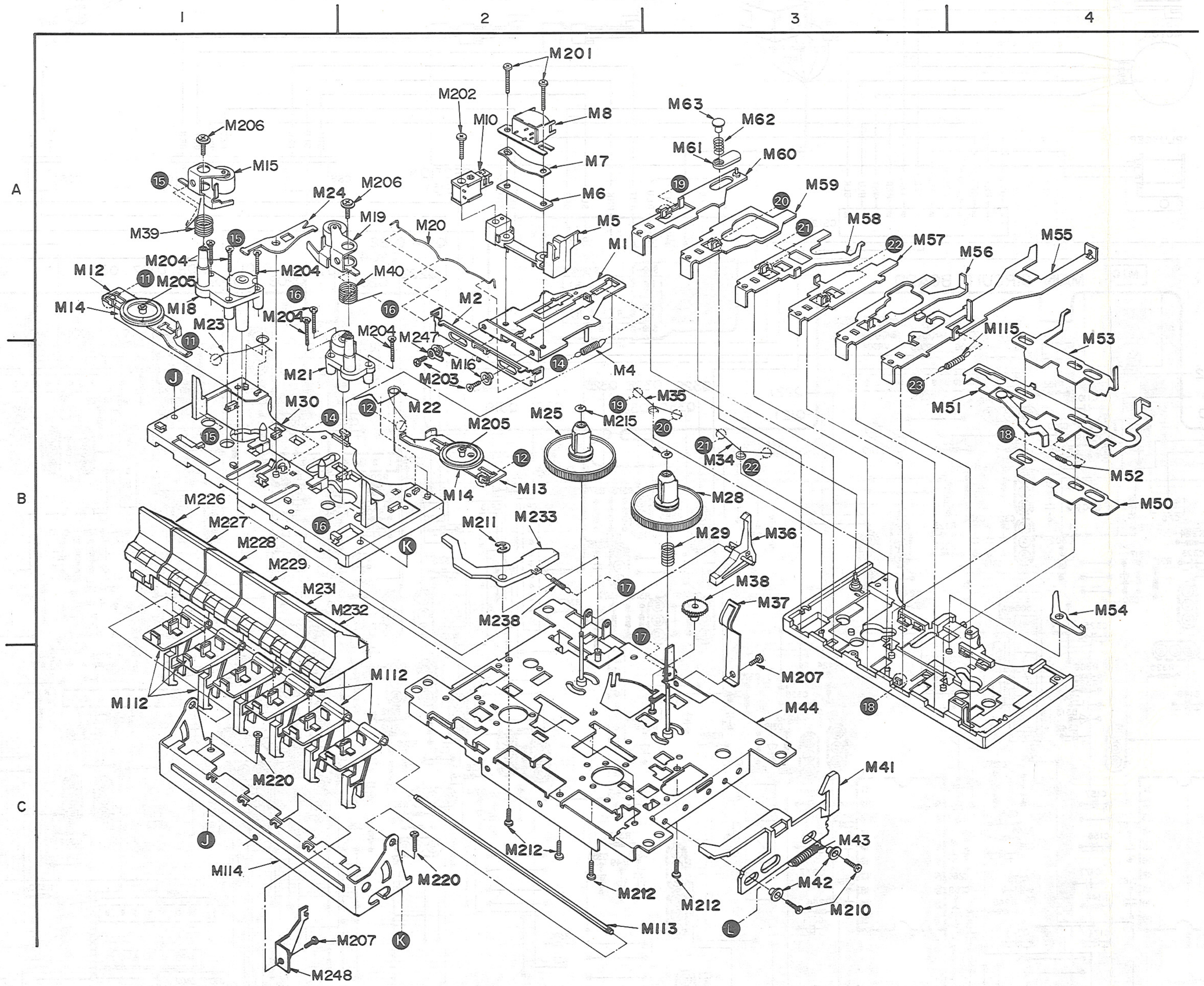
The letter in the circle after the part name indicates the color of the part.
Ⓢ... Silver

Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M 1	RFU56Z	Head Panel Ass'y
M 2	RFY725ZA	Lever, C.H.P.
M 3	RFX128Z	Collar, Change Lever
M 4	RFS525Z	Spring, Head Panel
M 5	RFU57Z	Head Base
M 6	RFE207Z	Head Plate
M 7	RFS498Z	Spring Plate, Head
M 8	RJH4C06GYAM	Record/Playback Head
M 10	RJH2C05YZAM	Erase Head
M 12	RFD203Z	Trigger Roller Plate Ass'y (REV)
M 13	RFD204Z	Trigger Roller Plate Ass'y (FWD)
M 14	RFK15Z	Trigger Roller Ass'y
M 15	RFR33Z	Pinch Roller Arm (REV) Ass'y
M 16	RFX129Z	Collar (A), Change
M 18	RFE208Z	Pinch Roller Arm Base (REV)
M 19	RFR32Z	Pinch Roller (FWD) Ass'y
M 20	RFS545Z	Spring, Pinch Roller
M 21	RFE209Z	Pinch Roller Arm Base (FWD)
M 22	RFS656ZA	Spring, Trigger Roller (FWD)
M 23	RFS502Z	Spring, Trigger Roller (REV)
M 24	RFY502Z	Lever, Head Base Control
M 25	RFJ63J	Reel Table Ass'y (REV)
M 28	RFJ64J	Reel Table Ass'y (FWD)
M 29	RFS546Z	Spring, Back Tension
M 30	RFU58Z	Button Base
M 34	RFS547Z	Spring (A), Button Lever
M 35	RFS508Z	Spring (B), Button Lever
M 36	RFY503Z	Lever, Erase Safety
M 37	RFS509Z	Spring, Cassette Holder
M 38	RFG94ZA	Gear, FF
M 39	RFS650ZA	Spring, Pinch Roller Arm (REV)
M 40	RFS658ZA	Spring, Pinch Roller Arm (FWD)
M 41	RFY722Z	Lever, Eject Slide
M 42	RFX120Z	Collar, Eject Slide Lever
M 43	RFS659ZA	Spring, Eject Slide Lever
M 44	RFU98ZA	Mechanism Base Ass'y
M 45	RFY505Z	Slide Lever Chassis
M 46	RFD224Z	Plate, Switch Spring
M 50	RFX146ZA	RC Stopper
M 51	RFY558Z	Plate, Pressure Button Operation
M 52	RFS549Z	Spring, Pressure Button Operation Plate
M 53	RFY526Z	Plate, Switch Operation
M 54	RFY559Z	Lever, Rew Button
M 55	RFY507Z	Lever, Rec Button
M 56	RFY508Z	Lever, Play Button
M 57	RFY509Z	Lever, Rew Button
M 58	RFY510Z	Lever, FF Button
M 59	RFY511Z	Lever, Stop Button
M 60	RFY512Z	Lever Ass'y, Pause Button
M 61	RFY513Z	Lever, Pause
M 62	RFS512Z	Spring, Pause Lever
M 63	RFX122Z	Stopper, Pause Button Lever
M 64	RFY514Z	Lever, Mode Change
M 67	RFS526Z	Spring (B), Mode Change Lever
M 68	RFK16Z	RF Clutch Ass'y
M 69	RFS660ZA	Spring, RF Clutch Ass'y
M 70	RFB59Z	Belt, FF
M 71	RFS514Z	Spring, Lift Arm Ass'y
M 72	RFY516Z	Lift Arm Ass'y
M 73	RFS551Z	Spring, Main Trigger Arm Ass'y
M 74	RFY517Z	Main Trigger Arm Ass'y
M 75	RFG75Z	Gear, Main
M 76	RFY518Z	Change Lever Ass'y
M 77	RFS552Z	Spring, Change Lever Ass'y
M 78	RFG82Z	Gear, Change
M 79	RFG77Z	Gear, Head Plate Moving
M 80	RFS517Z	Spring, Trigger Arm
M 81	RFX148ZA	Collar, Trigger Arm
M 82	RFY519Z	Trigger Arm Ass'y
M 83	RFY520Z	Arm Trigger
M 84	RFX123Z	Collar, Trigger Arm
M 85	RFY521Z	Play Moving Arm Ass'y
M 86	RFS518Z	Spring, Play Moving Arm Ass'y
M 87	RFG79Z	Cam Gear Plate Ass'y
M 88	RFS553Z	Spring, Detector Plate
M 89	RFS520Z	Spring, Cam Gear Plate
M 90	RFG78Z	Gear, Cam
M 91	RFQ35Z	Pully
M 92	RFB60Z	Belt (A), Main
M 93	RFY522Z	Lever, RF
M 94	RFE211Z	Plate, Detector
M 95	RFY523Z	Lever, Control
M 96	RFS554Z	Spring, Control Lever
M 100	RFF45ZA	Flywheel Ass'y, Pulley Capstan
M 101	RFF46ZA	Flywheel Ass'y, Gear Capstan
M 102	RFB52Z	Belt (B), Main
M 104	RFS522ZA	Spring, Damper
M 105	RFE212Z	Plate, Flywheel Cover
M 106	RFE213Z	Collar, Motor Ass'y
M 107	RFi32Z	Cushion, Motor Ass'y
M 108	RFD207Z	Plate, Flywheel Holding
M 109	RFU102ZA	Circuit Board, Switch
M 110	RFM100ZA	Motor Ass'y
M 112	RFY524Z	Lever, Operation
M 113	RFY726ZA	Shaft, Button Lever
M 114	RFD206Z	Frame, Button
M 115	RFS523Z	Spring, Rec Button Lever
M 201	RFE214Z	Screw ⊕2×10 (R/P Head M'tg) (Azimuth)
M 202	RFE326ZA	Screw ⊕2.6×10 (Erase Head M'tg)
M 203	XQC2+3	Screw ⊕2×3 (Head Panel Lever M'tg)
M 204	RFE215Z	Screw ⊕2×8.5 (Pinch Roller Arm Base M'tg)
M 205	RFE216Z	Poly Slider Washer ϕ1.2 (Trigger Roller Plate, etc. M'tg)
M 206	RFE327ZA	Screw ⊕2×6 (Reel Table Ass'y M'tg)
M 207	XSN2+3	Screw ⊕2×3 (Cassette Holder Spring M'tg)
M 209	RFN152Z	Washer ϕ2.1, Detector Plate, etc. M'tg
M 210	RFE221Z	Screw ⊕2×5 (Eject Slide Lever M'tg)
M 211	XUC25FT	E Ring (Head Plate Moving Gear M'tg)
M 212	RFE222Z	Screw ⊕2×6 (Button Base etc. M'tg)
M 213	RFE329ZA	Screw ⊕2×3 (Slide Lever Shassis M'tg)
M 214	RFE324Z	Screw ⊕2×1.5 (Switch Spring Plate M'tg)
M 215	RFE133Z	Poly Washer (Reel Table Ass'y M'tg)
M 216	XQN2+35	Screw ⊕2×3.5 (Trigger Arm M'tg)
M 217	RFE332ZA	Screw (RF Lever, etc. M'tg)
M 218	RFE330ZA	E Ring (Change Gear M'tg)
M 219	XSN2+3	Screw ⊕2×3 (Switch Circuit Board M'tg)
M 220	XQN2+7	Screw ⊕2×7 (Button Frame M'tg)
M 221	RFE218Z	Poly Washer (Flywheel)
M 224	XTB2+3	Screw ⊕2×3 (Switch Circuit Board M'tg)
M 226	RBC1015ZA	Button, Rec
M 227	RBC1016ZA	Button, Play
M 228	RBC1017ZA	Button, Rew
M 229	RBC1018ZA	Button, FF
M 230	RFY527Z	Lever (B), Change
M 231	RBC1019ZA	Button, Stop/Eject
M 232	RBC1020ZA	Button, Pause
M 233	RFY528Z	Lever (A), Change
M 234	XYN2+C4	Screw ⊕2×4 (Change Lever (B) M'tg)
M 235	RFX147ZA	Collar, Change Lever (B)
M 238	RFS661ZA	Spring, Cam Gear Plate
M 239	XYN2+C3	Screw ⊕2×3 (Flywheel Holding Plate M'tg)
M 247	RFS559Z	Spring, Dumper
M 248	RFD297ZA	Shaft, Stopper

MECHANISM PARTS LOCATION (TAPE 1)

• RECORD/PLAYBACK MECHANISM

(TOP VIEW)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M248
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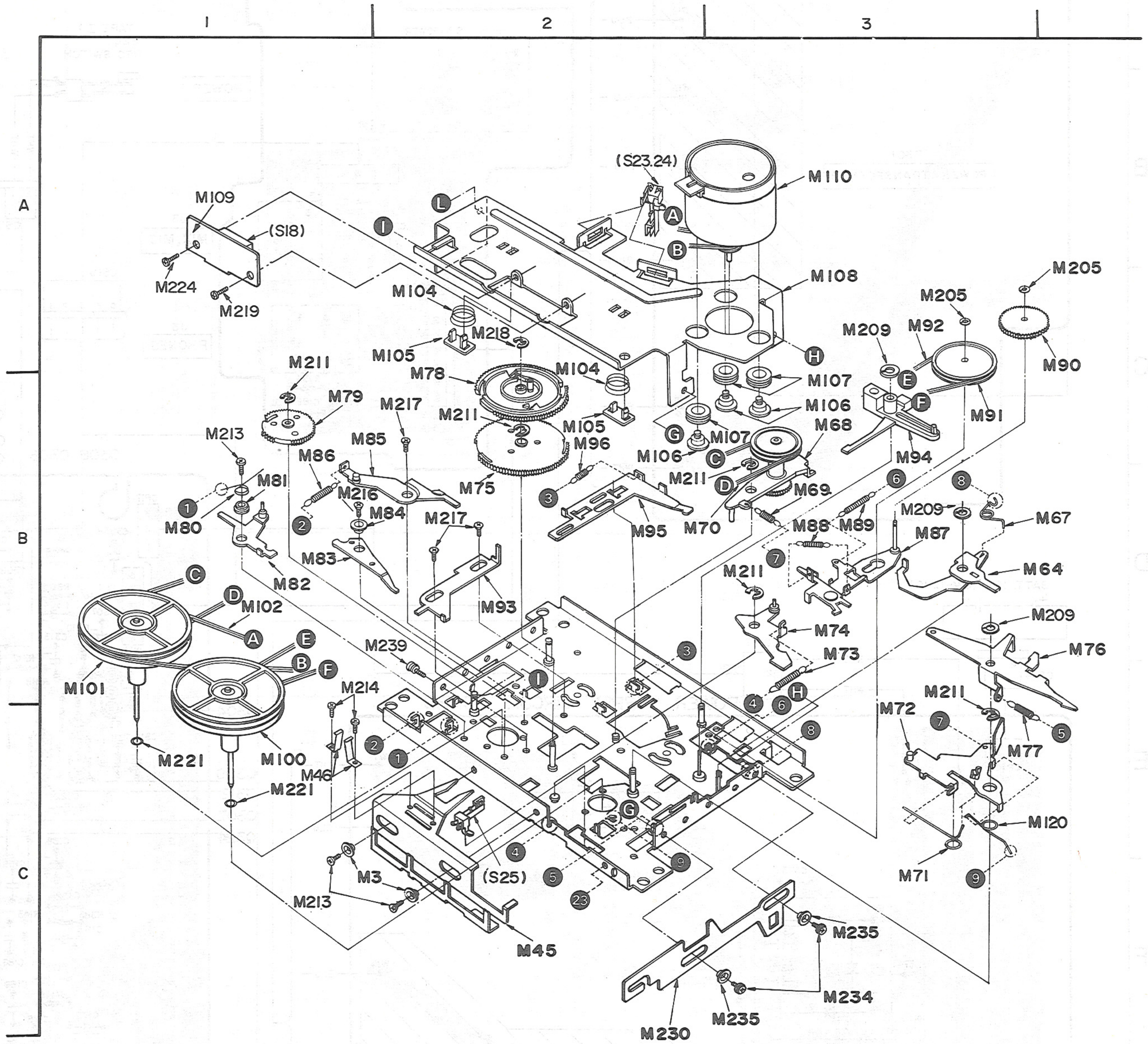
M1 ~ 49	14 12 39 18 23 15 21 30 24 19 40 20 22 14 16 2 10 13 25 6 7 8 5 1 4 35 29 34 28 38 37 36 44 42 43 41
M50~199	112 114 112 113 61 63 62 60 59 58 57 51 56 115 55 53 54 52 50
M200~215	204 205 206 204 207 206 204 203 202 211 205 212 201 215 212 212 207 210
M216~	226 227 228 220 229 231 232 248 247 220 238 233

(REAR VIEW)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M100
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(S25)
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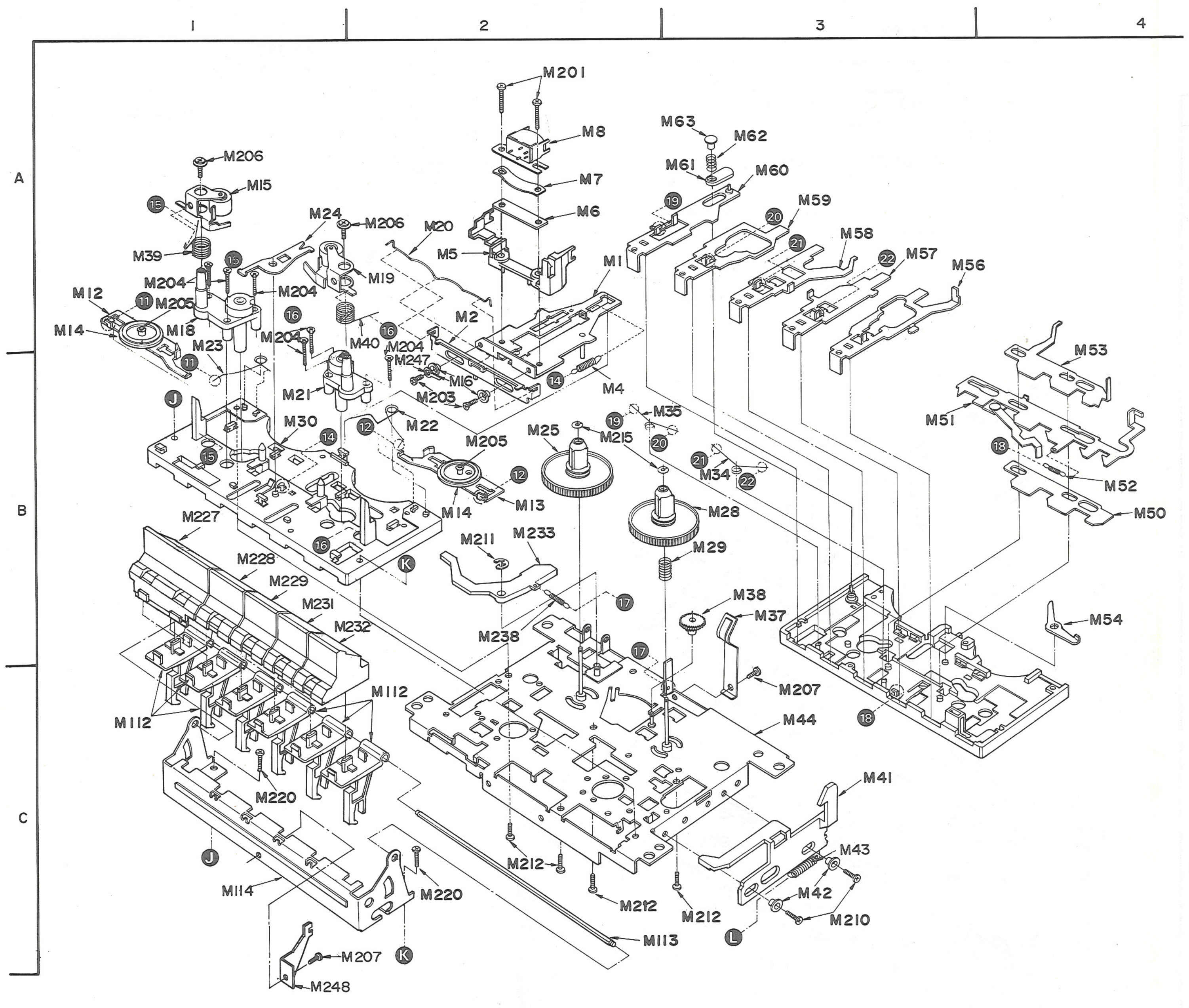
M235

M1 ~ 79	46 79 3 78 75 45 70 69 68 74 73 72 71 77 64 67 76
M80~99	80 81 82 86 83 85 84 93 96 95 88 89 94 92 87 91 90
M100~199	101 109 102 100 105 104 104 105 106 107 106 107 110 108 120
M200~220	219 213 211 213 216 214 217 217 211 218 211 211 209 209 211 205 209 205
M221~	224 221 221 239 230 235 234 235

MECHANISM PARTS LOCATION (TAPE 2)

• PLAYBACK MECHANISM

(TOP VIEW)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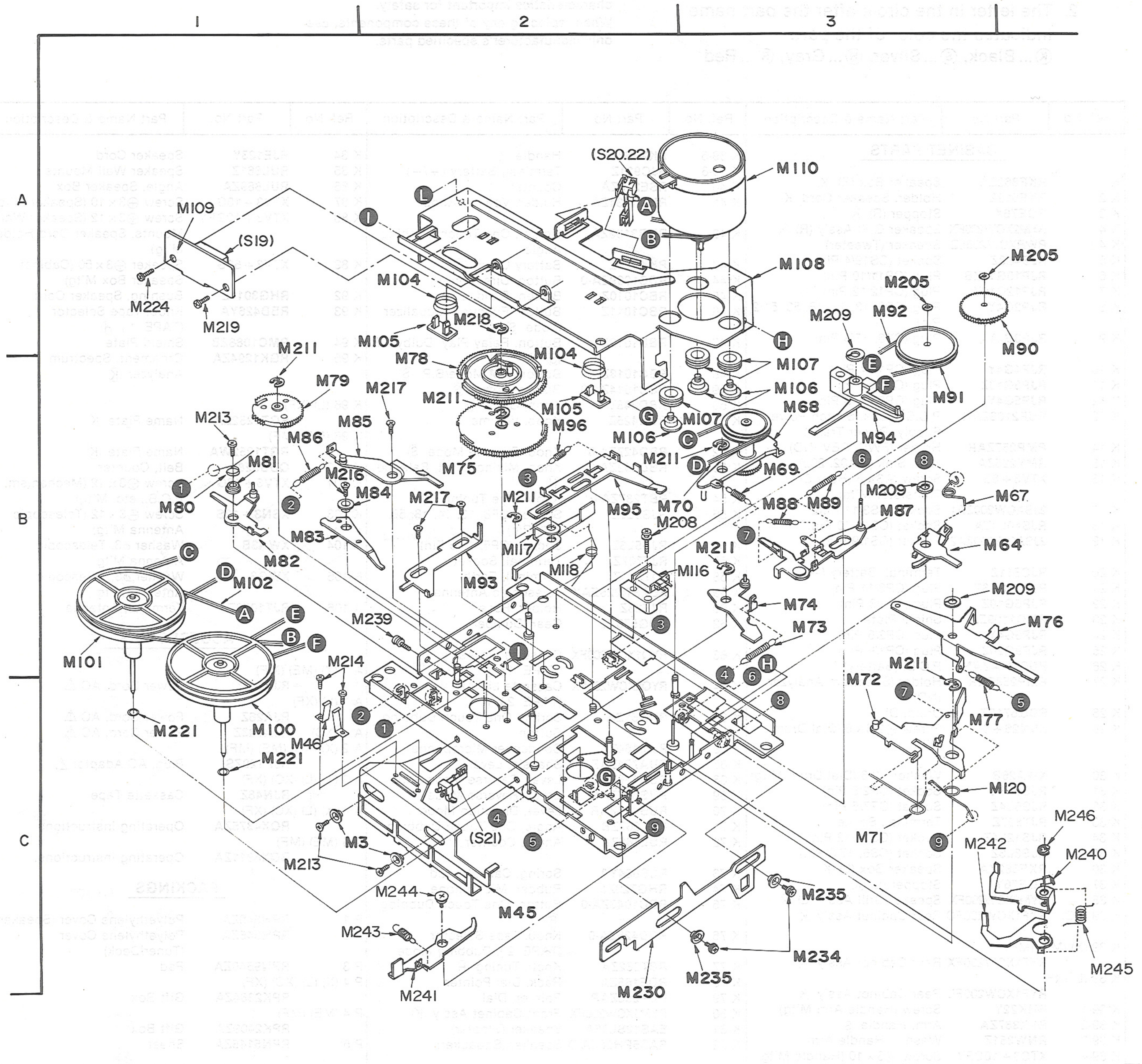
M1 ~ 49	14 12 39 18 23 15 21 30 24 40 19 20 22 5 14 16 2 13 25 6 7 8 1 4 35 29 34 28 38 37 44 42 43 41
M50 ~ 199	112 114 112 113 61 63 62 60 59 58 57 51 56 53 54 52 50
M200~215	204 205 206 204 207 206 204 203 211 205 212 201 215 212 207 210
M216~	227 228 220 229 231 232 248 247 220 238 233 221

(REAR VIEW)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M246
M240
M245
(S21)

M1 ~ 79	46 79 3 78 75 45 70 69 68 74 73 72 71 77 64 67 76
M80 ~ 99	80 81 82 86 83 84 93 96 95 88 89 94 92 87 91 90
M100~199	101 109 102 100 105 104 117 104 105 118 106 116 107 106 107 110 108 120
M200-220	219 213 211 213 216 214 217 211 218 211 211 208 211 209 209 211 205 209 205
M221~	224 221 221 243 239 244 241 230 235 234 235 242 246 240 245

■ MECHANISM PARTS LIST

REPLACEMENT PARTS LIST

The letter in the circle after the part name indicates the color of the part.

Ⓢ... Silver

Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M 1	**RFU56Z**	Head Panel Ass'y
M 2	**RFY725ZA**	Lever, C.H.P.
M 3	**RFX128Z**	Collar, Change Lever
M 4	**RFS525Z**	Spring, Head Panel
M 5	**RFU57Z**	Head Base
M 6	**RFE207Z**	Head Plate
M 7	**RFS498Z**	Spring Plate, Head
M 8	**RJH4C06GZAM**	Playback Head
M 12	**RFD203Z**	Trigger Roller Plate Ass'y (REV)
M 13	**RFD204Z**	Trigger Roller Plate Ass'y (FWD)
M 14	**RFK15Z**	Trigger Roller Ass'y
M 15	**RFR33Z**	Pinch Roller Arm (REV) Ass'y
M 16	**RFX129Z**	Collar (A), Change
M 18	**RFE208Z**	Pinch Roller Arm Base (REV)
M 19	**RFR32Z**	Pinch Roller Arm (FWD) Ass'y
M 20	**RFS545Z**	Spring, Pinch Roller
M 21	**RFE209Z**	Pinch Roller Arm Base (FWD)
M 22	**RFS656ZA**	Spring, Trigger Roller (FWD)
M 23	**RFS502Z**	Spring, Trigger Roller (REV)
M 24	**RFY502Z**	Lever, Head Base Control
M 25	**RFJ63J**	Reel Table Ass'y (REV)
M 28	**RFJ64J**	Reel Table Ass'y (FWD)
M 29	**RFS546Z**	Spring, Back Tension
M 30	**RFU58Z**	Button Base
M 34	**RFS547Z**	Spring (A), Button Lever
M 35	**RFS508Z**	Spring (B), Button Lever
M 37	**RFS509Z**	Spring, Cassette Holder
M 38	**RFG94ZA**	Gear, FF
M 39	**RFS650ZA**	Spring, Pinch Roller Arm (REV)
M 40	**RFS658ZA**	Spring, Pinch Roller Arm (FWD)
M 41	**RFY722Z**	Lever, Eject Slide
M 42	**RFX120Z**	Collar, Eject Slide Lever
M 43	**RFS659ZA**	Spring, Eject Slide Lever
M 44	**RFU99ZA**	Mechanism Base Ass'y
M 45	**RFY505Z**	Slide Lever Chassis
M 46	**RFD224Z**	Plate, Switch Spring
M 50	**RFX146ZA**	RC Stopper
M 51	**RFY558Z**	Plate, Pressure Button Operation
M 52	**RFS549Z**	Spring, Pressure Button Operation Plate
M 53	**RFY526Z**	Plate, Switch Operation
M 54	**RFY559Z**	Lever, Rew Button
M 56	**RFY508Z**	Lever, Play Button
M 57	**RFY509Z**	Lever, Rew Button
M 58	**RFY510Z**	Lever, FF Button
M 59	**RFY511Z**	Lever, Stop Button
M 60	**RFY512Z**	Lever Ass'y, Pause Button
M 61	**RFY513Z**	Lever, Pause
M 62	**RFS512Z**	Spring, Pause Lever
M 63	**RFX122Z**	Stopper, Pause Button Lever
M 64	**RFY727ZA**	Lever, Mode Change
M 67	**RFS526Z**	Spring (B), Mode Change Lever
M 68	**RFK16Z**	RF Clutch Ass'y
M 69	**RFS660ZA**	Spring, RF Clutch Ass'y
M 70	**RFB59Z**	Belt, FF
M 71	**RFS514Z**	Spring, Lift Arm Ass'y
M 72	**RFY516Z**	Lift Arm Ass'y
M 73	**RFS551Z**	Spring, Main Trigger Arm Ass'y
M 74	**RFY517Z**	Main Trigger Arm Ass'y
M 75	**RFG75Z**	Gear, Main
M 76	**RFY728ZA**	Change Lever Ass'y
M 77	**RFS552Z**	Spring, Change Lever Ass'y
M 78	**RFG82Z**	Gear, Change
M 79	**RFG77Z**	Gear, Head Plate Moving
M 80	**RFS517Z**	Spring, Trigger Arm
M 81	**RFX148ZA**	Collar, Trigger Arm
M 82	**RFY519Z**	Trigger Arm Ass'y
M 83	**RFY520Z**	Arm, Trigger
M 84	**RFX123Z**	Collar, Trigger Arm
M 85	**RFY521Z**	Play Moving Arm Ass'y
M 86	**RFS518Z**	Spring, Play Moving Arm Ass'y
M 87	**RFG95ZA**	Cam Gear Plate Ass'y
M 88	**RFS553Z**	Spring, Detector Plate
M 89	**RFS520Z**	Spring, Cam Gear Plate
M 90	**RFG78Z**	Gear, Cam
M 91	**RFQ35Z**	Pully
M 92	**RFB60Z**	Belt (A), Main
M 93	**RFY522Z**	Lever, RF
M 94	**RFE211Z**	Plate, Detector
M 95	**RFY523Z**	Lever, Control
M 96	**RFS554Z**	Spring, Control Lever
M 100	**RFF45ZA**	Flywheel Ass'y, Pulley Capstan
M 101	**RFF46ZA**	Flywheel Ass'y, Gear Capstan
M 102	**RFB52Z**	Belt (B), Main
M 104	**RFS522Z**	Spring, Damper
M 105	**RFE212Z**	Plate, Flywheel Cover
M 106	**RFE213Z**	Collar, Motor Ass'y
M 107	**RFi32Z**	Cushion, Motor Ass'y
M 108	**RFD207Z**	Plate, Flywheel Holding
M 109	**RFU101ZA**	Circuit Board, Switch
M 110	**RFM100ZA**	Motor Ass'y
M 112	**RFY524Z**	Lever, Operation
M 113	**RFY726ZA**	Shaft, Button Lever
M 114	**RFD206Z**	Button Frame
M 116	**RFP16ZA**	Plunger Ass'y
M 117	**RFY561Z**	Lever, TPS
M 118	**RFS557Z**	Spring, TPS Lever
M 120	**RFS582Z**	Spring, Lift Arm Ass'y
M 201	**RFE214Z**	Screw ⊕2×10 (R/P Head M'tg) (Azimuth)
M 203	**XQC2+3**	Screw ⊕2×3 (Head Panel Lever M'tg)
M 204	**RFE215Z**	Screw ⊕2×8.5 (Pinch Roller Arm Base M'tg)
M 205	**RFE216Z**	Poly Slider Washer φ1.2 (Trigger Roller Plate, etc. M'tg)
M 206	**RFE327ZA**	Screw ⊕2×6 (Reel Table Ass'y M'tg)
M 207	**XSN2+3**	Screw ⊕2×3 (Cassette Holder Spring M'tg)
M 208	**RFE328ZA**	Screw ⊕2×8 (Plunger Ass'y M'tg)
M 209	**RFN152Z**	Washer φ2.1, Detector Plate, etc. M'tg)
M 210	**RFE221Z**	Screw ⊕2×5 (Eject Slide Lever M'tg)
M 211	**XUC25FT**	E Ring (Head Plate Moving Gear M'tg)
M 212	**RFE222Z**	Screw ⊕2×6 (Button Base etc. M'tg)
M 213	**RFE329ZA**	Screw ⊕2×3 (Slide Lever Shassis M'tg)
M 214	**RFE324Z**	Screw ⊕2×1.5 (Switch Spring Plate M'tg)
M 215	**RFE133Z**	Poly Washer (Reel Table Ass'y M'tg)
M 216	**XQN2+35**	Screw ⊕2×3.5 (Trigger Arm M'tg)
M 217	**RFE332ZA**	Screw (RF Lever, etc. M'tg)
M 218	**RFE330ZA**	E Ring (Change Gear M'tg)
M 219	**XSN2+3**	Screw ⊕2×3 (Switch Circuit Board M'tg)
M 220	**XQN2+7**	Screw ⊕2×7 (Button Frame M'tg)
M 221	**RFE218Z**	Poly Washer (Flywheel)
M 224	**XTB2+3**	Screw ⊕2×3 (Switch Circuit Board M'tg)
M 227	**RBC1021ZA**	Button, Play
M 228	**RBC1017ZA**	Button, Rew
M 229	**RBC1018ZA**	Button, FF
M 230	**RFY527Z**	Change Lever (B)
M 231	**RBC1019ZA**	Button, Stop/Eject
M 232	**RBC1020ZA**	Button, Pause
M 233	**RFY528Z**	Lever (A), Change
M 234	**XYN2+C4**	Screw ⊕2×4 (Change Lever (B) M'tg)
M 235	**RFX147ZA**	Collar
M 238	**RFS661ZA**	Spring, Cam Gear Plate
M 239	**XYN2+C3**	Screw ⊕2×3 (Flywheel Holding Plate M'tg)
M 240	**RFY729ZA**	Lever, Selector
M 241	**RFY730ZA**	Lever, Detector
M 242	**RFY731ZA**	Lever, Stop
M 243	**RFS661ZA**	Spring (A) Detector Lever
M 244	**RFE332ZA**	Screw (Detector Lever)
M 245	**RFS662ZA**	Spring (B) Detector Lever
M 246	**RFE333ZA**	E Ring (Selector Lever)
M 247	**RFS559Z**	Spring, Dumper
M 248	**RFD297ZA**	Shaft, Stopper

C · R PARTS LIST

Numbering System of Resistor

Example:

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)

ERJ	6G	C	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity

ECEA	50	M	R47
Type	Voltage	Peculiarity	Value (0.47μF)

Resistor Type	Wattage	Tolerance
ERD: Carbon Resistor ERC: Solid Resistor ERF: Incombustible Box-Shaped Wire-Wound Resistor ERG: Metal Oxide-Film Resistor ERM: Wire-Wound Resistor ERO: Superstable Metal Film Resistor ERX: Metal-Film Resistor RRJ: ERJ: Chip Resistor	10 : $^1/_8$W 25 : $^1/_4$W 50 : $^1/_2$W 18 : $^1/_8$W 14 : $^1/_4$W 12 : $^1/_2$W 1 : 1W 2 : 2W 3 : 3W S1 : $^1/_2$W S2 : $^1/_4$W 6G : $^1/_{10}$W 8G : $^1/_8$W	F : ±1% G : ±2% J : ±5% K : ±10% H : ±20%

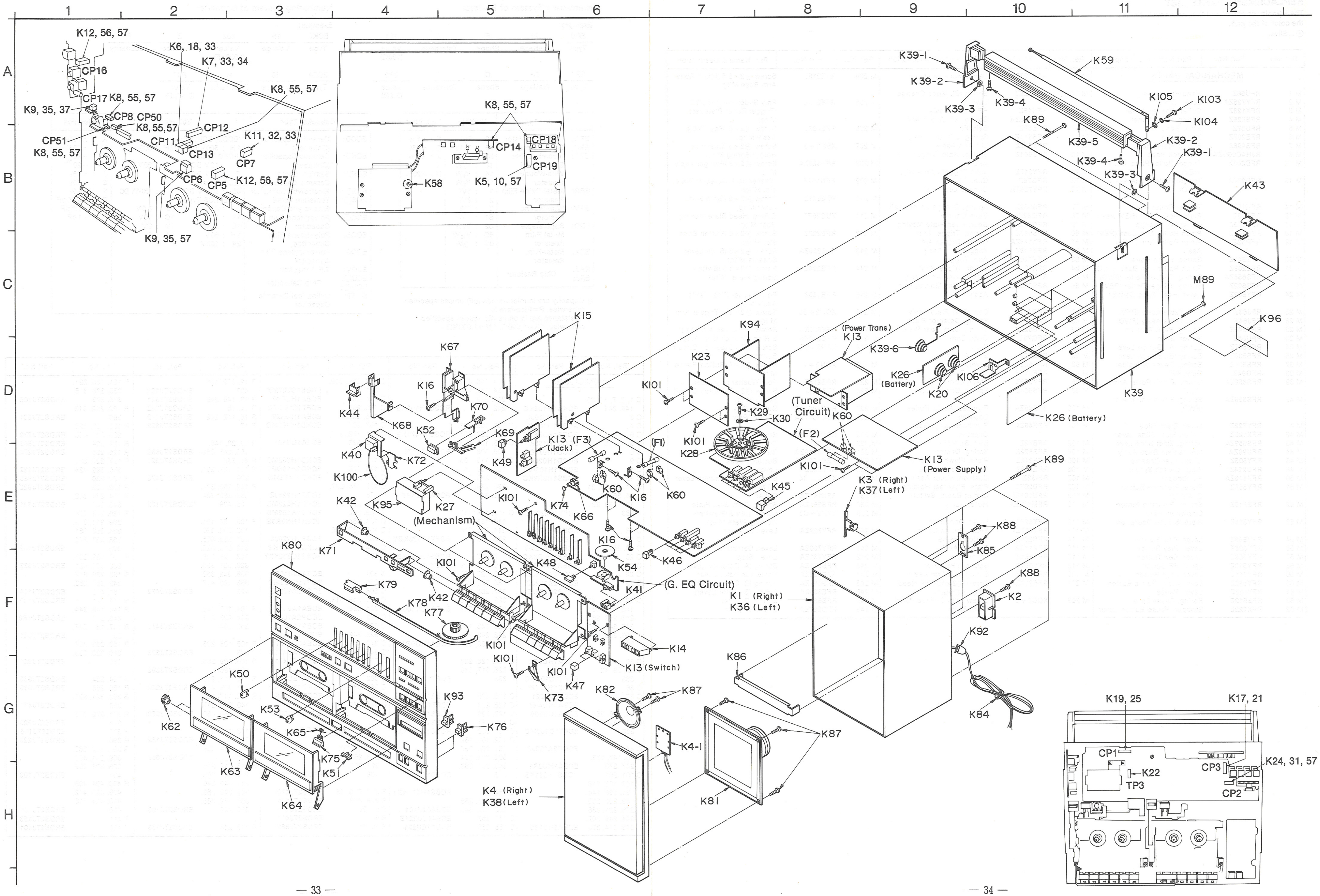
※ Capacity are in microtarads (μF) unless specified otherwise, P=Pico-farads.

※ Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Capacitor Type	Voltage	Tolerance
ECCD: Ceramic Capacitor (Chitacon) ECKD: Ceramic Capacitor (Chitabari) ECFD: Semiconductor Ceramic Capacitor ECE□: Electrolytic Capacitor ECS□: Tantalum Fixed Electrolytic Capacitor ECQ□: Polystyrenc Film Capacitor ECQS: Polystyrene Film Capacitor ECQS: Polypropylene Film Capacitor ECQV: T.F Capacitor ECU□: RCU□: Chip Capacitor ECBT: Cylindrical Ceramic Capacitor	(ECCD, ECKD Type) 1H : 500V DC 2H : 500V DC (ECFD Type) C : 12V DC D : 25V DC E : 50V DC (ECQ Type) 05 : 50WV DC 1 : 100WV DC (ECE, ECS Type) 0G : 4V 0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 1J : 63V 2A : 100V	K : ±10% M : ±20% Z : $^{+80}_{-20}$% J : ±5% G : ±2% F : ±1% C : ±0.25pF D : ±0.5pF F : ±1pF

Ref. No.	Part No.
CAPACITORS	
C 1, 2, 7, 17, 25, 146, 246	**ECKD1H102KB**
C 3	**RCBS1H330JL**
C 4	**RCBS1H100JC**
C 5	**RCBS1H5R6KC**
C 6, 13, 15	**ECCD1H180K**
C 8	**ECCD1H070DC**
C 9	**ECCD1H020C**
C 11	**ECKT1H103MD**
C 12	**RCBS1H3R9KC**
C 14, 26, 27, 31, 34, 35, 40, 181, 183, 281, 283	**ECFT1C223MD**
C 16	**RCBS1H470JL**
C 18	**ECCD1H150K**
C 19, 354	**RCBS1C822MY**
C 20	**RCBS1H6R8KCY**
C 21	**RCBS1H4R7KCY**
C 22	**ECQP2A361JZ**
C 23	**ECQP2A152JZ**
C 24	**ECQP2A472JZ**
C 28, 29, 33, 46, 148, 153, 161, 248, 253, 261, 347, 349, 355, 356, 359, 366, 369	**ECEA1HU010**
C 30	**ECEA1HU2R2**
C 32, 39, 42, 363	**ECFT1C103MD**
C 36	**ECCD1H331K**
C 37	**ECEA0JU221**
C 38	**ECEA1HU4R7**
C 41, 156, 256	**ECEA1CU100**
C 43, 162, 262, 353	**ECFT1C333MD**
C 44	**ECQP2A102JZ**
C 45, 147, 173, 247, 273	**ECEA1HU0R1**
C 101, 201	**RCBS1H331KB**
C 102, 103, 118, 121, 136, 144, 149, 202, 203, 218, 221, 236, 244, 249, 307, 313, 314, 370	**ECEA1HU010**
C 104, 110, 119, 134, 142, 204, 210, 219, 234, 242	**RCBS1H101KB**
C 105, 106, 107, 205, 206, 207	**RCBS1H471KB**
C 108, 109, 208, 209, 308	**ECEA0JU470**
C 111, 113, 135, 138, 139, 141, 211, 213, 235, 238, 239, 241, 338, 341	**ECEA1EU4R7**
C 112, 114, 115, 116, 133, 212, 214, 215, 216, 233, 358	**ECFT1C333KDY**
C 117, 217	**RCBS1H821KB**
C 120, 220, 309	**RCBS1H102KB**
C 122, 127, 137, 185, 222, 227, 237, 285, 310, 322, 332, 333, 334, 336, 337	**ECEA1CU100**
C 123, 143, 145, 223, 243, 245, 304, 329, 331	**ECEA1HU0R1**
C 124, 126, 224, 226, 317, 330, 335	**ECFT1C473KD**
C 125, 225	**ECEA1HUR33**
C 128, 228	**ECFT1C223KD**
C 129, 229	**RCBS1C472KX**
C 131, 231	**RCBS1C682KX**
C 132, 232	**RCBS1C562KXY**
C 152, 168, 169, 252, 268, 269, 303, 315, 324, 343, 350, 360, 375	**RCBS1C103NY**
C 154	**RCBS1H471KBY**
C 155, 163, 255, 263, 302, 346	**ECEA0JU101**
C 157, 257	**ECEA0JU221B**
C 158, 258	**ECEA1EU221**
C 159, 259, 319, 321	**RCBS1C222MX**
C 164, 264	**ECEA1HUR47**
C 165, 265	**ECFT1C153MD**
C 166, 266	**ECEA1HUR22**
C 167, 267	**ECKD1H682MD**
C 171, 172, 271, 272, 323	**ECEA1CU101**
C 174, 364	**ECKD1H332MD**
C 175, 275	**ECKD1H103MD**
C 176, 276, 352	**ECFT1C473MD**
C 177, 178, 277, 278	**ECQP1H224JZ**
C 179, 279, 361	**ECKD1H222MD**
C 182, 282	**ECKD1H152MD**
C 184, 284	**ECEA1HN3R3S**
C 186, 187, 286, 287	**RCBS1H220JL**
C 254	**ECKD1H471KB**
C 274	**RCBS1C332KXY**
C 301	**ECEA0JU102**
C 305	**ECFT1C683MD**
C 306	**ECQP2A152JZ**
C 311, 316, 318, 325, 326	**ECEA1AU101**
C 312	**ECQP2A103JZ**
C 327	**ECEA1AU102**
C 328, 342	**ECEA1AU221**
C 340	**ECEA0JU471**
C 348	**ECEA1AU471B**
C 357	**ECEA1CU471**
C 362	**ECEA1EU472**
C 365, 368	**ECKD1H681KB**
C 367	**ECCT1H221K**
C 371, 372, 373, 374	**ECKD1H103ZF**
RESISTORS	
R 1, 146, 150, 246, 250, 387, 391, 397, 400, 402	**ERDS2TJ104**
R 2, 4, 7, 9, 18	**ERDS2TJ470**
R 3, 8, 408	**ERDS2TJ101**
R 5, 378	**ERDS2TJ474**
R 6	**ERDS2TJ471**
R 10, 11	**ERDS2TJ562**
R 12, 379, 406, 407	**ERDS2TJ102**
R 13, 149, 249	**ERDS2TJ821**
R 14, 15	**ERDS2TJ222**
R 16, 142, 242	**ERDS2TJ472**
R 17	**ERDS2TJ822**
R 19, 20, 148, 152, 248, 252	**ERDS2TJ682**
R 21, 368	**ERDS2TJ221**
R 101, 129, 201, 229	**ERDS2TJ473**
R 102, 202, 324, 332, 383, 384, 425, 429	**ERDS2TJ152**
R 103, 120, 131, 133, 203, 220, 231, 233, 305, 312, 314, 322, 323, 326, 328, 329, 331, 335, 338, 342, 358, 363, 390, 417, 423	**ERDS2TJ472**
R 104, 107, 143, 204, 207, 243, 352, 364	**ERDS2TJ470**
R 105, 108, 205, 208	**ERDS2TJ823**
R 106, 109, 206, 209, 426	**ERDS2TJ392**
R 110, 111, 210, 211, 318, 418	**ERDS2TJ222**
R 112, 117, 128, 140, 212, 217, 228, 240, 430	**ERDS2TJ332**
R 113, 115, 213, 215	**ERDS2TJ182**
R 114, 214, 336, 337	**ERDS2TJ682**
R 116, 119, 216, 219, 301, 306, 341, 345, 346, 347, 348, 353, 356, 359, 385, 386, 427	**ERDS2TJ103**
R 118, 218	**ERDS2TJ153**
R 121, 135, 221, 235, 308, 315, 375, 376	**ERDS2TJ105**
R 122, 222, 316, 366	**ERDS2TJ331**
R 123, 126, 223, 226, 330, 420	**ERDS2TJ272**
R 124, 224	**ERDS2TJ683**
R 125, 225	**ERDS2TJ274**
R 127, 227, 339, 340, 392, 424	**ERDS2TJ122**
R 130, 230	**ERDS2TJ680**
R 132, 232	**ERDS2TJ822**
R 134, 234, 302, 343, 344	**ERDS2TJ821**
R 136, 236, 304, 309, 311, 319, 334, 350, 351, 355, 367, 370, 393	**ERDS2TJ102**
R 137, 139, 237, 239, 362, 421	**ERDS2TJ333**
R 138, 238, 317, 349, 357, 360, 361, 422	**ERDS2TJ104**
R 141, 241	**ERDS2TJ182**
R 144, 145, 244, 245, 313	**ERDS2TJ1R0**
R 147, 151, 247, 251	**ERDS2TJ331**
R 153, 253, 307, 310, 320, 333, 365	**ERDS2TJ221**
R 154, 254	**ERDS2TJ333**
R 155, 255	**ERDS2TJ393**
R 303, 321, 325, 369	**ERDS2TJ471**
R 371, 372, 373, 374	**ERDS2TJ223**
R 377	**ERD25TJ106**
R 380	**ERDS2TJ220**
R 381, 382, 388, 389, 394, 395, 396, 398, 399, 401	**ERDS2TJ103**
R 403, 404, 405, 409, 410, 412, 413, 414, 415, 416	**ERDS2TJ121**
R 411	**ERDS2TJ153**
R 428	**ERDS2TJ101**

CABINET PARTS LOCATION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K20
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K26 (Battery)
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K4 (Right)
K38 (Left)
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K17, 21
CP1
K22
TP3
CP3
K24, 31, 57
CP2

Notes:

1. The letter in round brackets in the Ref. No. column indicates the shipping destination.
   (X) ....For Asia, Latin America, Middle East and Africa areas.
   (L).........For Australia.
   (XC)......For Saudi Arabia.
   (XF)......For Newzealand.
   (ME).....For AAFES EUROPE
   (MF).....For AAFES PACIFIC
2. The letter in the circle after the part name indicates the color of the part.
   Ⓚ... Black, Ⓢ... Silver, Ⓗ... Gray, Ⓡ... Red

REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

CABINET PARTS

Ref. No.	Part No.	Part Name & Description
K 1	**RKF862ZA**	Speaker Box (R) Ⓚ
K 2	**RKE512Z**	Holder, Speaker Cord Ⓚ
K 3	**RGE76X**	Stopper (R) Ⓚ
K 4	**RYM2XCW200FX**	Speaker Grill Ass'y (R) Ⓚ
K 4-1	**RWEXCW200LZ**	Speaker (Tweeter)
K 5	**RJS4L3Z**	Socket (CS19/4 Pin)
K 6	**RJP10G10ZB**	Plug (CP11/10 Pin)
K 7	**RJP12G10Z**	Plug (CP12/12 Pin)
K 8	**RJP2G4Y**	Plug (CP8, 13, 14, 18, 50, 51/2 Pin)
K 9	**RJP3G4Y**	Plug (CP6, 17/3 Pin)
K 10	**RJP4G4Y**	Plug (CP19/4 Pin)
K 11	**RJP5G10Z**	Plug (CP7/5 Pin)
K 12	**RJP5G4Y**	Plug (CP5, 16/5 Pin)
K 13	**RUP2183ZAN**	P.C.B. (Jack, Switch Power Supply, Power Trans)
K 14	**RMP257ZAR**	Holder (FWD, REV IND)
K 15	**RMY225ZA**	Heat Sink (IC102, 202)
K 16	**XTV3+8B**	Screw ⊕3×8 (Heat Sink, Transistor M'tg)
K 17	**2JSACW200ZA1**	Socket (CS3/11 Pin)
K 18	**RJS10L4ZA**	Socket (CS11/10 Pin)
K 19	**2JSACW200ZA2**	Socket (CS1/9 Pin)
K 20	**RJC511Z**	Terminal, Battery (−)
K 21	**RJP11G18Z**	Plug (CP3/11 Pin)
K 22	**RJP3G10Z**	Plug (TP3/3 Pin)
K 23	**RMC1109ZA**	Shield Plate
K 24	**RJP6G4Y**	Plug (CP2/6 Pin)
K 25	**RJP9G20Z**	Plug (CP1/9 Pin)
K 26	**RUP2184ZAN**	P.C.B. (Battery)
K 27	**RMP258ZAR**	Holder (Spectrum Analyzer IND)
K 28	**RDG5712Z**	Drum, Dial
K 29	**XSN26+6**	Screw ⊕2.6×6 (Dial Drum M'tg)
K 30	**XWA26B**	Washer ϕ2.6 (Dial Drum M'tg)
K 31	**RJS6L3Z**	Socket (CP2/6 Pin)
K 32	**RJS5L4Z**	Socket (CP7/5 Pin)
K 33	**RJT807Z**	Terminal, Socket
K 34	**RJS12L4Z**	Socket (CS12/12 Pin)
K 35	**RJS3L3Z**	Socket (CS6, 17/3 Pin)
K 36	**RKF862YA**	Speaker Box (L) Ⓚ
K 37	**RGE76Y**	Stopper (L) Ⓚ
K 38	**RYM3XCW200FX**	Speaker Grill Ass'y (L) Ⓚ
K 39 (XC)	**RYF1XCW200FC**	Rear Cabinet Ass'y Ⓚ
K 39 (X) (ME) (MF)	**RYF1XCW200FX**	Rear Cabinet Ass'y Ⓚ
K 39 (L) (XF)	**RYF1XCW200FL**	Rear Cabinet Ass'y Ⓚ
K 39-1	**RHK22Y**	Screw (Handle Arm M'tg)
K 39-2	**RKX367ZA**	Arm, Handle Ⓢ
K 39-3	**RNW351Z**	Washer, Handle Arm
K 39-4	**XTC3+10CFY**	Screw ⊕3×10 (Handle M'tg)
K 39-5	**RKX368ZA**	Handle Ⓚ
K 39-6	**RJC931Z**	Terminal, Battery (+/−)
K 40	**RSE216ZA**	Counter
K 41	**RHR1334ZA**	Holder, Volume Knob
K 42	**RHR3106ZA**	Holder, One Touch Dubbing Angle
K 43	**RKK273Z**	Battery Cover Ⓚ
K 44	**RBC1009ZA-0**	Button, Direction Ⓗ
K 45	**RBC1010Z**	Button, Band Ⓢ
K 46	**RBC1011Z**	Button, Function, Equalizer Mode Ⓢ
K 47	**RBC1012Z**	Button, Relay Play, Dolby NR Ⓢ
K 48	**RBC1013Z**	Button, FM Mode/B.P. Ⓢ
K 49	**RBC1014ZA-0**	Button, Power Ⓢ
K 50	**RBD248Y**	Knob, G. EQ Ⓗ
K 51	**RBD425Z**	Knob, Volume Ⓢ
K 52	**RBD427ZA-0**	Knob, Reverse Mode Ⓢ
K 53	**RBD442ZA-0**	Knob, Mixing Level, Balance Ⓗ
K 54	**RBT287ZA-0**	Knob, Fine Tuning Ⓗ
K 55	**RJS2L3Z**	Socket (CP8, 13, 14, 18, 50, 51/2 Pin)
K 56	**RJS5L3Z**	Socket (CP5, 16/5 Pin)
K 57	**RJT707Z**	Terminal, Socket
K 58	**RJT514Z**	Terminal, Earth
K 59	**XEARR225EAY**	Telescopic Antenna
K 60	**RJF28Z**	Holder, Fuse
K 62	**RDG5782Z**	Gear, Dumper
K 63	**RYQ1XCW200FX**	Cassette Lid Ass'y, (TAPE 1) Ⓚ
K 64	**RYQ2XCW200FX**	Cassette Lid Ass'y, (TAPE 2) Ⓚ
K 65	**RUQ51ZA**	Spring, One Touch Dubbing Button
K 66	**RJM164Z**	Condenser Microphone
K 67	**RUA734ZAR**	Shassis, Lever
K 68	**RUB456ZAR**	Lever, Reverse Mode Slide
K 69	**RUB457ZAR**	Lever, Reverse Mode
K 70	**RUB458ZAR**	Lever, Direction Mode
K 71	**RUL867ZB**	Angle, One Touch Dubbing
K 72	**RUL868ZA**	Angle, Counter
K 73	**RUS664YA**	Spring, Cassette Lid
K 74	**RHG728Z**	Rubber, Microphone
K 75	**RBC1043ZA-0**	Button, One Touch Dubbing Ⓡ
K 76	**RBD426ZA-0**	Knob, Tape Selector (TAPE 2), Dubbing Mode
K 77	**RBT282ZA**	Knob, Tuning Ⓗ
K 78	**RDE165ZA**	Rack, Dial Pointer
K 79	**RDP255ZAR**	Pointer, Dial
K 80	**RYM1XCW200FX**	Front Cabinet Ass'y Ⓚ
K 81	**EAS12SL05A**	Speaker (Woofer)
K 82	**RAS5PH08ZA-D**	Speaker (Squauker)
K 84	**RJE123Y**	Speaker Cord
K 85	**RUL661Z**	Speaker Wall Mounts
K 86	**RUL869ZA**	Angle, Speaker Box
K 87	**XTV3+10G**	Screw ⊕3×10 (Speaker M'tg)
K 88	**XTV3+12GFY**	Screw ⊕3×12 (Speaker Wall Mounts, Speaker Cord Holder M'tg)
K 89	**XTV3+50G**	Speaker ⊕3×50 (Cabinet Speaker Box M'tg)
K 92	**RHG3011Z**	Bushing, Speaker Cord
K 93	**RBD426YA**	Knob, Tape Selector (TAPE 1) Ⓗ
K 94	**RMC1088ZB**	Shield Plate
K 95	**RGK1294ZA**	Ornament, Spectrum Analyzer Ⓚ
K 96 (L) (XF)	**RGT1252ZA**	Name Plate Ⓚ
K 96 (ME) (MF)	**RGT1252WA**	Name Plate Ⓚ
K 100	**QDB0288**	Belt, Counter
K 101	**XTV3+12G**	Screw ⊕3×12 (Mechanism, P.C.B., etc. M'tg)
K 103	**XSN3+12S**	Screw ⊕3×12 (Telescopic Antenna M'tg)
K 104	**XWA3B**	Washer ϕ3, Telescopic Antenna M'tg
K 105	**XWG3**	Washer ϕ3, Telescopic Antenna M'tg
K 106	**RJT1070ZA**	Terminal, Antenna

ACCESSORIES

Ref. No.	Part No.	Part Name & Description
A 1 (X) (ME) (MF)	**RJA21Z**	Power Cord, AC ⚠
A 1 (L) (XF)	**RJA26Z**	Power Cord, AC ⚠
A 1 (XC)	**RJA103Z**	Power Cord, AC ⚠
A 2 (X) (XC) (ME) (MF)	**RJP120ZS**	Plug, AC Adaptor ⚠
A 3 (X) (L) (XC) (XF)	**RJN48Z**	Cassette Tape
A 4 (X) (L) (XC) (XF)	**RQX4875ZA**	Operating Instructions
A 4 (ME) (MF)	**RQX4911ZA**	Operating Instructions

PACKINGS

Ref. No.	Part No.	Part Name & Description
P 1	**RPH546ZA**	Polyethylene Cover (Speaker)
P 2	**RPH545ZA**	Polyethylene Cover (Tuner/Deck)
P 3	**RPN9540ZA**	Pad
P 4 (X) (L) (XC) (XF)	**RPK2364ZA**	Gift Box
P 4 (ME) (MF)	**RPK2409ZA**	Gift Box
P 5	**RPN5145ZA**	Sheet

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H.Y
X | L | XC | XF | ME | MF
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